Textile Industries

Formerly "COTTON"

a W. R. C. Smith publication

JANUARY, 1955

Highlights

Fibers for the Future 87-102
A symposium on man-made fibers, cotton, and wool by three outstanding authorities in their fields.

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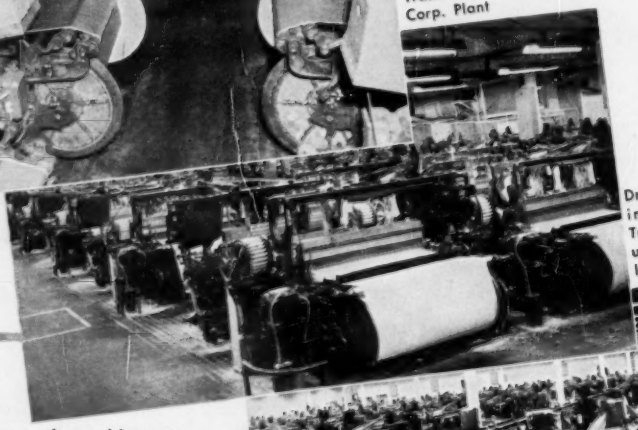
Diehl POWER TRANSMITTER

is assuring maximum weaving efficiency in leading mills

Thousands of Diehl Power Transmitters are operating DRAPER LOOMS in leading textile mills. Many have been in continuous operation for five years.

Draper X2 looms operating with Diehl Power Transmitters in Cone Mills Corp. Plant



Draper XD looms operating with Diehl Power Transmitters at Bibb Manufacturing Company, Columbus, Georgia.

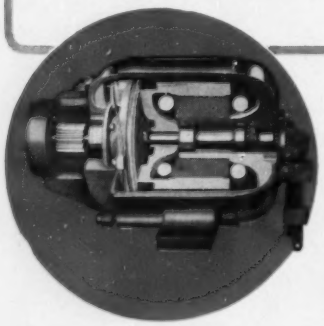
MILL MEN ARE ENTHUSIASTIC ABOUT THESE FEATURES

- "Stored energy" for smooth, rapid starts and positive picking.
- Precision braking.
- Minimum fluctuations of speed and motor current.
- Lower power consumption.
- Lower motor heat losses.
- Eliminates current regeneration.
- Simplicity and ease of maintenance.

. . . all of which adds up to increased mill production, improved quality of cloth, lowered operating costs and long, trouble-free service.

We will welcome an opportunity to tell you—without obligation—how the Diehl Power Transmitter can bring these benefits to you.

Draper XD looms operating with Diehl Power Transmitters at the Lyons Plant, Synthetic Division, M. Lowenstein and Sons



This cutaway view illustrates the inverted construction of the power transmitter and shows the rotor which revolves around the outside of the stator on a hollow shaft—providing the essential inertia without the disadvantages of a separate fly wheel. Note the pinion driving shaft with attached clutch-plate which is shifted axially by simple lever at front end of motor, regulating clutch engagement pressure and providing controlled driving and braking action.

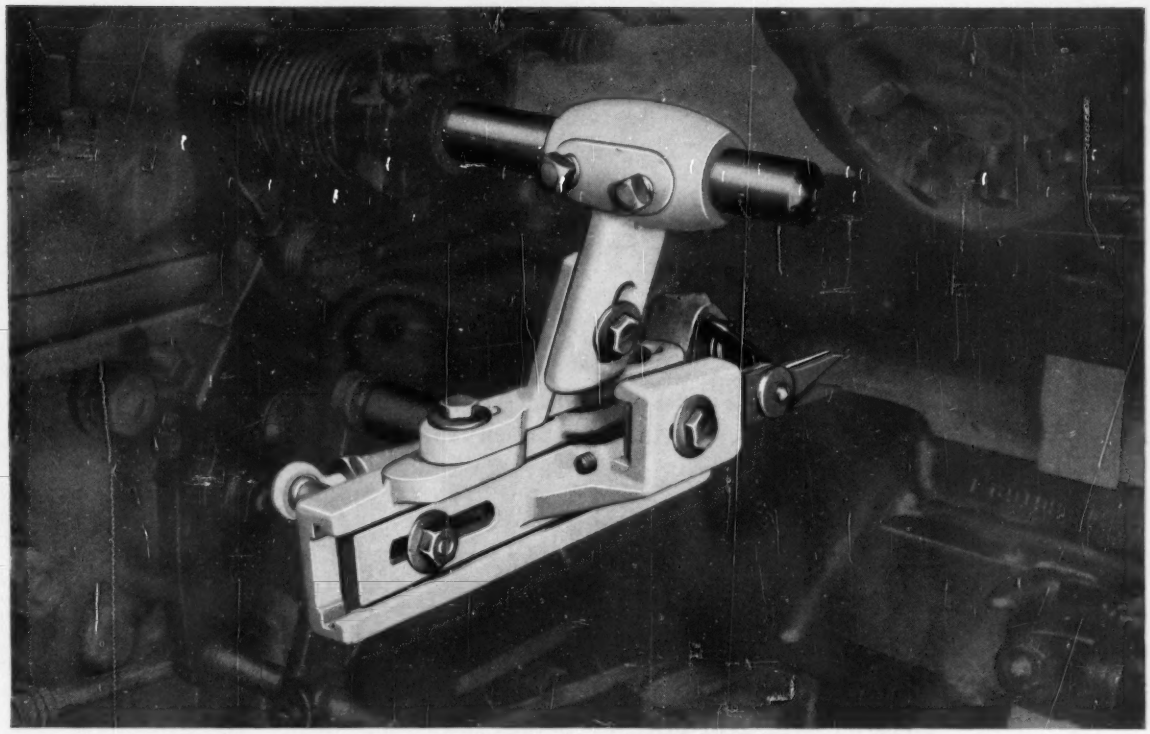
DIEHL MANUFACTURING COMPANY

Electrical Division of THE SINGER MANUFACTURING COMPANY

Finderne Plant, SOMERVILLE, NEW JERSEY

ATLANTA • BALTIMORE • BOSTON • CHICAGO • DETROIT • NEW YORK • PHILADELPHIA • WORCESTER

largest textile mill circulation in the world



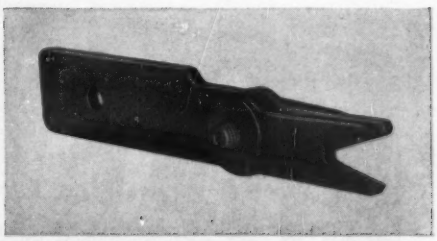
NEW #25 DRAPER THREAD CUTTER*
FOR X-SERIES AND E MODEL LOOMS

features simplified construction with full range of adjustments

Here are the reasons why the New #25 Draper Thread Cutter is the best cutter for your looms.

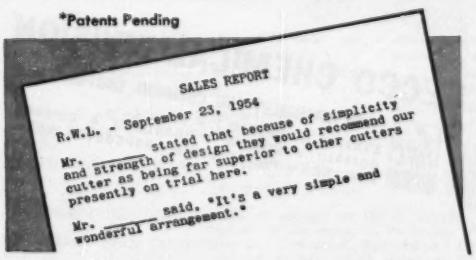
- Maintenance costs are reduced with *20 fewer parts used in assembly.*
- It is easily applied without changing existing parts on the loom.
- Settings are easier to make — easier to maintain.
- The danger of drag-ins is greatly reduced.

Mill Trials prove that this simplified Thread Cutter, with its full range of adjustments, increases production and lowers costs.



Filling Knife Assembly cuts and holds better on yarns ranging from 15 denier monofilament nylon to 4's cotton flannel napping.

*Patents Pending



SALES REPORT

R.W.L. - September 23, 1954

Mr. _____ stated that because of simplicity and strength of design they would recommend our cutter as being far superior to other cutters presently on trial here.

Mr. _____ said, "It's a very simple and wonderful arrangement."

DRAPER
CORPORATION

HOPEDALE, MASS.

ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.

The Buffalo Electro-Chemical Company, Inc. and the Becco Sales Corporation have been merged with Food Machinery and Chemical Corporation. Effective January 1, 1955 they will operate as "Becco Chemical Division", Food Machinery and Chemical Corporation.

The personnel with which Becco customers are familiar will continue to operate Becco Chemical Division. Customer service, research and production will prevail at the same high level as for more than 25 years past.

BECCO® BRIEFS

PERACETIC ACID BLEACHING

. . . of acetate rayon, nylon or mixtures of these, with or without cotton or viscose rayon, produces full white without fiber attack and permits full mote removal when bleaching cotton mixtures. Dye becks, jigs and similar equipment are used. Write for completely informative Becco Bulletin No. 44 or consult with Becco representative.

BECCO CHEMICAL DIVISION

FOOD MACHINERY AND CHEMICAL CORPORATION

STATION B, BUFFALO 7, N.Y.
BUFFALO • BOSTON • CHARLOTTE • CHICAGO
NEW YORK • PHILADELPHIA • VANCOUVER, WASH.

ABC NBP EPA

Textile Industries

Formerly "COTTON"

Vol. 119, No. 1
January, 1955

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TEXTILE INDUSTRIES is published monthly at 116 E. Crawford St., Dalton, Ga., by W. R. C. Publishing Company, Dalton and Atlanta, Ga., U. S. A. W. J. Rooke, chairman of the board; R. P. Smith, president. Executive and Editorial Offices: 806 Peachtree St., N. E., Atlanta 5, Ga.

Subscription Rates: United States and Possessions, $2.00 for one year; Canada, South America, Central America, $2.00 per year; Foreign Countries, $5.00 per year. Entered as second-class matter at the post office, Dalton, Georgia, under the Act of March 3, 1879.

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Carpet and Rug Cores

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Cloth Winding and Baling Boards

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TEXTILE PAPER PRODUCTS, INC.

Cedartown, Georgia ● Crossett, Arkansas

Now TWO plants to serve you. Prompt delivery by our own fleet throughout the South and Southwest!

► S&R wishes all of you readers, advertisers, and friends a Happy and Prosperous 1955. We hope you had a Merry Christmas and thank you for the greetings, including one in Chinese from Hong Kong.

► Even though we certainly believe in advertising—the more, the merrier—there is one greeting we had just before Christmas that we'd just as soon forget, and it went something like this:

"I Shall Never Forget Last Christmas"

Mischievous young eyes exraying every gaily wrapped package beneath the huge Christmas tree; the crackling hearth fire; good things to eat; the spirit of good will in the hearts of everyone. And those happy smiles upon the faces of the men-folk as they sat contentedly enjoying the full pleasure of their fine Clear Havana cigars . . . bla! bla! bla!"

► Anyway, as we were saying, it's the start of another year—a big one for all of us and an exceptionally good one for textiles. Al Rau, who handles the exhibits for the Knitting Arts Exhibition at Atlantic City, called to ask if we'd settle for one booth instead of two. Seems they are going to have a Sell Out and Standing Room Only. New knitting machinery and everybody feeling expansive. That's what S&R likes to see; and if you can't find us at Atlantic City, just remember the suppliers come first on booths. We will go around and sit in their booths and peddle TEXTILE INDUSTRIES if it gets too crowded.

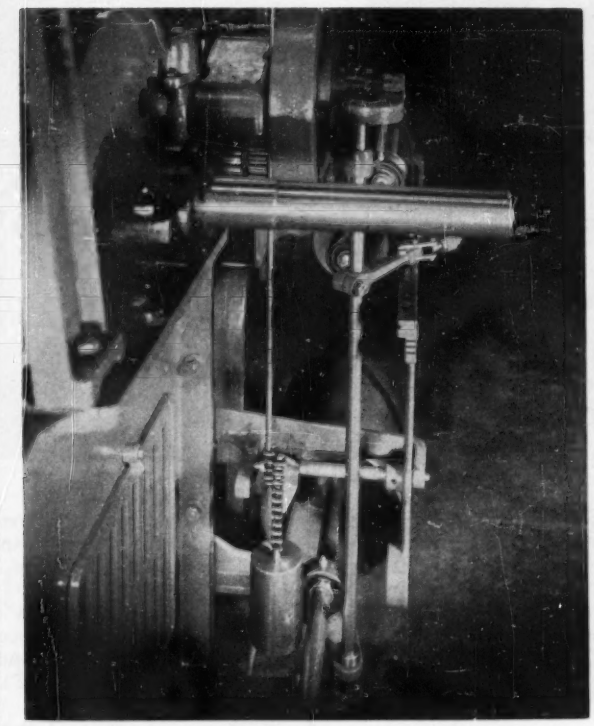
► Here we go talking about textiles being good and we have a news release from Emanuel Lewis of James Talcott, Inc., factors, whose 25th anniversary with this firm coincides with their 100th anniversary. He says in part:

"The textile market is firming up generally and points not only to increased activity but to profits of a marginal type. . . . There is not an oversupply presently at either the mill or converter level and a definite undersupply at the retail level. . . . When we look at price structure, we see there has been a constant firming as well as a noticeable increase. The first

THE ALDRICH SYNCHRONIZED SINGLE PROCESS PICKER

Has always made more uniform laps inch-by-inch than any other picker with which it has been compared.

MANY NEW FEATURES MAKE THIS AN EVEN BETTER PICKER



THE EVENER IS THE "BRAIN" OF THE PICKER

It senses changes in the thickness of lap going into the beater, and immediately compensates for these by changing the rate movement of the lap. A sluggish evener, like a stupid person, "thinks" slowly and ineffectually and does poor, clumsy work.

The overhead type evener is more sensitive than the underslung variety because movement of the evener pedals is transmitted directly to the scale mechanism without fulcrums to cause friction. To make the belt shifting mechanism more sensitive we have devised a new weighting arrangement which keeps all parts under tension and eliminates lost motion. The illustration shows how flexible roller chains are wrapped around machined surfaces to maintain this tension with a single weight.

The belt shifting quadrant is mounted on ball bearings for greater sensitivity.

The belt shipper is mounted on a ball bearing roller to make it perfectly responsive to the slightest change in pressure on the evener pedals.

A picker is no better than its evener, and the Aldrich evener is a better evener.

AldricH MachinE WorkS

Greenwood, South Carolina

Stop hand oiling start increasing production with BIJUR AUTOMATIC LUBRICATION

Hand lubrication of textile machinery is obsolete. Leading textile mills, following the trend toward greater automation, have switched to automatic lubrication.

Bijur Automatic Lubrication makes costly, laborious, hand oiling a thing of the past. It insures more production from every machine by doing away with the major cause of textile machinery breakdowns—faulty lubrication. And still more productive time is added by eliminating down-time for hand oiling. Every bearing, even the most inaccessible, is fed the right quantity of oil at the right time.

Savings in oil consumption can exceed 50%. Work spoilage is avoided. Danger of fire is reduced and causes of accidents are removed. When you eliminate outmoded methods of lubrication, you will see immediate results in dollars-and-cents. 1032

Colorful, new bulletin, "From Fibre to Fabric," shows the practical benefit that Bijur Automatic Lubrication offers to the Textile Industry. Write for your copy.

BIJUR LUBRICATING CORPORATION
Rochelle Park, New Jersey

Pioneers in Automatic Lubrication

Shorts and Remnants

symptoms of this appeared roughly six months ago and there has been no reversal of this trend. . . . "

Adding a word of caution to the mill and converter Mr. Lewis concludes: "His financial structure can be sound, his sales force aggressive, the prices right, but if his creative people have not produced the styles the market wants, there will be little business, let alone any profit for him."

► Congratulations to you and James Talcott on your anniversaries. Amen, Brother Lewis. You just took

Mr. Lewis

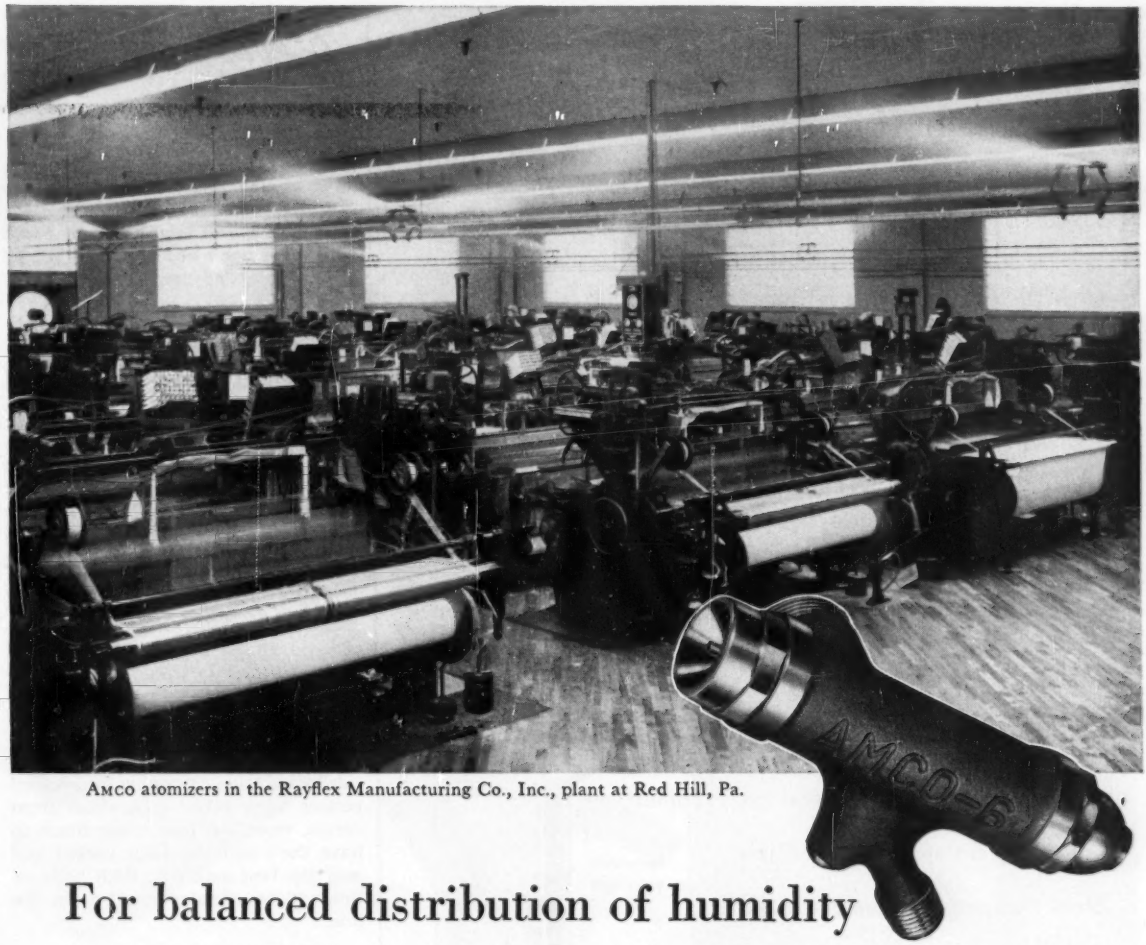
the words right out of our mouth. If you don't believe it, go back and read "Hard Sell Starts with Hard Facts" in our December issue or "What Makes a Salesman Look Good" in this issue. Ole S&R is glad to see merchandising coming up more and more in TEXTILE INDUSTRIES' pages.

► If any of you read the trade paper *Industrial Marketing* you may have seen some of this optimism in the lead article on "Trends" in their November issue by our Editor, John C. Fonville. He says 1955 should be "7 to 10% ahead of 1954." So now his neck is out too.

► But you don't have to be an editor to forecast. Our office boy came in the other day to tell us that "textile business is better. It said so on the radio." Seems as if somebody from Miami Beach had said that "mill employment has been rising . . . cotton prices are firm . . . prices of rayon, acetate, and nylon fabrics are stronger . . . supply is now being scheduled to fit the demand."

► Miami Beach—now that's a good place to forecast from. Do you reckon they need an assistant forecaster?

► Since we mentioned the begin-



AMCO atomizers in the Rayflex Manufacturing Co., Inc., plant at Red Hill, Pa.

For balanced distribution of humidity

AMCO No. 6 MICRO-SPRAY ATOMIZERS

A humidifying system for textiles must meet stringent requirements. Some of these apply to the atomizers . . . the heart of many humidification systems:

1. Water vapor must be projected very uniformly, over a wide area. Amco No. 6 *micro-spray* atomizers accomplish this by delivering a smoke-like spray to a great distance.

2. Under conditions of varying moisture demand, the quality and distribution of the spray should not change. Amco No. 6 *micro-spray* atomizers are either completely "OFF" or fully "ON", operating only at their most efficient point and providing a constant, even distribution pattern in every part of the mill.

3. For economy, problems of cleaning and maintenance should be minimized. Amco No. 6 *micro-spray* atomizers are self-cleaning, on every cycle of operation, and are so simple in design that servicing, when required, is easily and quickly done. There is no diaphragm to wear and need eventual replacement.

Amco No. 6 *micro-spray* atomizers are the latest addition to a line of humidifying equipment that has been accepted for over half a century. They can be used as original equipment, as replacement or supplementary units on all types of systems. Write for complete details.

AMCO

AIR CONDITIONING SYSTEMS since 1888

Humidification • Evaporative Cooling (Ductless or Central Station) • Refrigeration

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA • BOSTON • CAMDEN • CHARLOTTE • AFFILIATED WITH GRINNELL COMPANY, INC.

Dodenhoff Anti-Friction Dobby Loops*

Virtually Eliminate Jack Lever Wear

The roller bearing feature of these Dobby Loops gives you the smoothest rolling harness you ever saw. Steel stamped construction gives you approximately three times the strength of the usual cast iron types. Cleats and rollers are case hardened steel. You will save considerable money in replacement costs and in shut-down time when you install Dodenhoff Anti-Friction Dobby Loops. Order a supply today or write for samples and prices.

Carried in stock.

* Patented

W. D. DODENHOFF CO.
INCORPORATED
GREENVILLE, SOUTH CAROLINA

Shorts and Remnants

ning of that merchandising series in our December issue, and we hope you liked it, we might as well admit that all is not a bed of roses—"D. S." from South Carolina writes that:

> " . . . in the textile industry merchandising is in a poor way . . . and a lot of production men fight changes because they are afraid that any change may make their job harder to run. . . . "

► Another who signs himself "Textile Engineer" writes:

> " . . . appears to me that cotton textiles want to remain behind the procession. Successful operators are not too interested in doing what can and should be done; they are satisfied to be as good as the competition. . . . "

► Since we brought up cotton textiles, here's as good a place as any to bring up the review on "Fibers for the Future" appearing right here in this very issue. TEXTILE INDUSTRIES' editors have asked spokesmen from cotton, wool, and man-made fibers to have their say—no holds barred and may the best man win. S&R believes this will be of interest all down the line.

► There are a lot of new fibers and more to come. Looking at the advertising of Celanese, Industrial Rayon, etc., in this same issue it looks as if some of the man-made fibers are on the march.

► If we would judge from one good reader maybe they are lucky not to have the help of the U. S. Department of Agriculture. "R. A. C." seems to have attended too many of those ginner-grower conferences. He says in part:

> "It seems to me that your paper, and every other textile industry organ, needs to keep hammering away at the fact that neither the farmer nor the ginner cares whether cotton is spinnable or not. The farmer is interested in the biggest possible lint turnout, and if the fibers attached to motes can be ground off of them and put in the bale, that suits him fine. The ginner is interested solely in satisfying the farmer. He does not care three whoops in Hell about the spinner. The Department of Agriculture is looking out for

...BETTER THAN EVER!

For Cleaner PACKAGE DYEING

SONOCO DYTEX® TUBES

with PLASTAVON SLEEVES

SONOCO Dytex Tubes, with Plastavon Sleeves, are the result of laboratory and in-use development proven by over 20 years' experience.

Dytex Tubes have been accepted by the industry for all standard forms of package dyeing. The exclusive Plastavon Sleeve allows more even dye distribution, better "flow" control and filters out objectionable or discoloring matter. Also reduces slippage in primary winding.

Supplied in standard sizes 5/8" I.D. x 6 3/4" long and 1 5/8" I.D. in varying lengths. Special sizes available. Tubes can be furnished in certain colors for identification.

SONOCO PRODUCTS COMPANY

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DEPENDABLE SOURCE OF SUPPLY

sonoco
SERVES THE WORLD
PAPER CARRIERS
REG. U.S. PAT. OFF.

Why

do most users

prefer and buy the genuine

RIDGID

PIPE WRENCH?

It's easiest to work with... perfect balance . . . comfort-grip I-beam handle . . . handy pipe scale on hookjaw . . . easy-spinning adjusting nut . . . clean grip on pipe, no slip or lock.

It lasts longer... first guaranteed housing, won't break or bind . . . ever. Every wrench individually tested before shipment . . . and millions of them in use. Sizes 6" to 60"—end pattern, 6" to 36".

For the most for your money, buy RIDGID . . . Your local Supply House stocks them for you, delivers them fast!

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U. S. A.

RIDGID

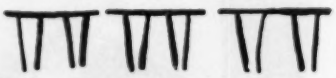
Work-Saver Pipe Tools

Shorts and Remnants

the farmer, first, last and all the time, and although they know from their own tests that these re-gins damage cotton, they also know that from the farmer's standpoint the re-gins make money for him by swindling the spinners, and that seems to be all right with the Department of Agriculture."

► An anonymous contributor to our Puzzle Department thought we would be interested in the following which seems to have been clipped from a Pepperell Manufacturing Co. newspaper, "The Pepperell News Sheet:"

What Is It?



A child's-eye view of women lined up to buy Pepperell Nylon Snug Fit Sheets for Christmas gifts.

► We noted the following in a more serious view from the "Consolidated Textile News" of Consolidated Textile Company:

Six Mistakes of Man

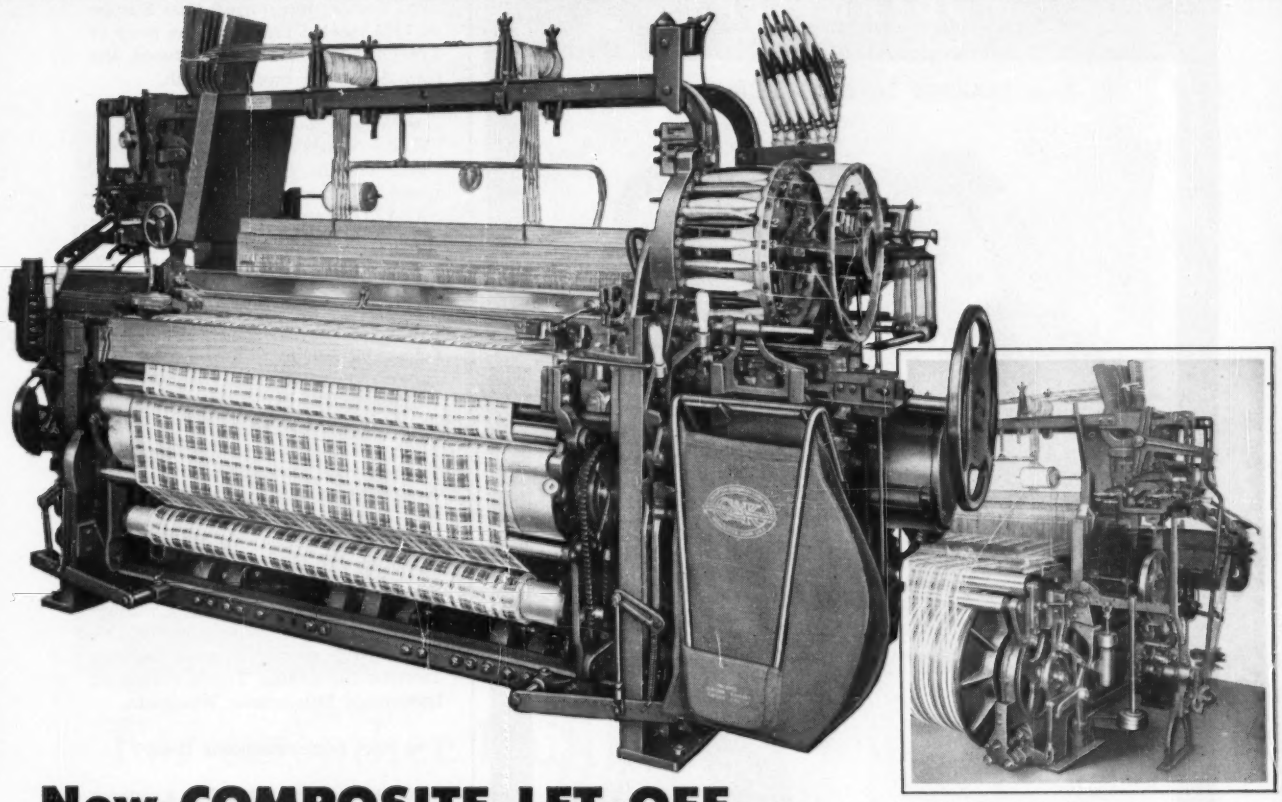
The Roman philosopher and statesman, Cicero, said it 2,000 years ago, and it's still true today. The "six mistakes of man" are:

1. The delusion that individual advancement is made by crushing others; 2. The tendency to worry about things that cannot be changed or corrected; 3. Insisting that a thing is impossible because we cannot accomplish it; 4. Refusing to set aside trivial preferences; 5. Neglecting development and refinement of the mind, and not acquiring the habit of reading and study; 6. Attempting to compel other persons to believe and live as we do.

► Getting away from the mistakes of man and speaking of WOMEN, here is an interesting textile photograph of the "Introduction of Lano-

No. 3 in a series explaining

Why C&K's New Multi-Purpose Looms mean More Profit to any mill



New COMPOSITE LET-OFF

You saw it at Atlantic City on Spun Rayon Suitings, Upholstery, Filament Dress Goods and Cotton Denims . . . *and it is fully as effective* on Woolen or Worsted Fabrics, Lenos, Handkerchiefs and many other constructions.

THESE NEW M-P FEATURES CONTRIBUTE→TO THESE PROFIT FACTORS	Better Quality	Increased Work Assignments	Increased Production (Speed X Efficiency)	Lower Maintenance	Versatility
Rotary Magazine: For single color, or for multiple-color work (up to 4).	✓	✓	✓	✓	✓
Scissors Thread Cutter	✓	✓	✓	✓	✓
Vacuum Filling Control	✓	✓	✓		✓
Cone Picking		✓	✓	✓	
More Rugged Basic Frame: Common to all M-P Looms.		✓	✓	✓	✓
Letoffs: New composite type. Also other standard and special types.	✓	✓		✓	✓
Takeups: All purpose, silk, or lower winding roll.	✓				✓
Lay: Precision-built and convertible — 1x1, 2x1, 4x1, 4x2, and 4x4	✓	✓	✓	✓	✓
Shedding Mechanisms: Knowles Head — 25 Harness, 4/10" Space Knowles Head — 20 Harness, 1/2" Space Dobby — 20 Harness, 15/32" Gauge Undercam Jacquard	✓	✓	✓	✓	✓
Feelers: As required.	✓	✓	✓		✓
Driving & Shipping	✓	✓	✓	✓	

PRECISION, STRENGTH, SIMPLICITY Throughout Every M-P Loom

Whatever you weave, here's *real news* for you . . . *this new composite let-off* on C & K **M-P** Looms. And here are the five operating advantages you get from this important new **M-P** feature:

1. New Composite Let-Off operates with **M**ore **P**recision on an exceptionally wide range of fabric weights and constructions.
2. It takes strain off warp ends as motion is mechanically powered to turn beam.
3. Range in picks per inch is greatly increased through improved roller clutch instead of increment-restricting ratchets.
4. **M**ore **P**ositive yarn delivery.
5. Provides whip roll location to afford longer shed line . . . with less strain on yarn.

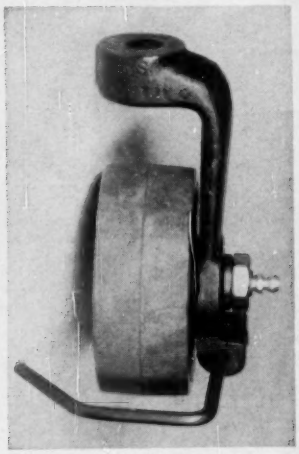
This new Composite Let-Off helps make **M**ore **P**rofit from **M**ore **P**erfect cloth. And this is *only one* of the many new **M-P** features contributing to the five profit-factors which are the basic objectives of every mill. Check the chart at the left . . . and see all the ways in which new **M-P** Looms mean **M**ore **P**rogress in modern weaving.

Crompton & Knowles
LOOM WORKS
WORCESTER 1, MASSACHUSETTS, U. S. A.
Charlotte, N. C. · Philadelphia, Pa. · Allentown, Pa.
Crompton & Knowles Jacquard & Supply Co., Providence, R. I.
Crompton & Knowles of Canada Limited, Montreal, Quebec.

meadows
MODERNIZERS

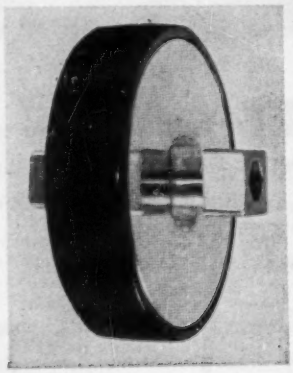
BALL-BEARING TAPE TENSION PULLEYS

B-212R-213
For Whitin Twister. Pulley 4-5/16" dia x 2" face. Can also furnish pulley B-226, 4¼" dia x 1⅝" face.



B388-202P
For H & B Spinning. 3-3/16" dia x 1¼" face.

B-214L-202
For Whitin and Saco-Lowell Spinning. Can also be adapted to other make frames by use of Meadows accessories. Pulley 3-3/16" dia x 1¼" face.



B-730-4
Drop-in Pulley for H & B Spinning. Dia 4" x 15/16" face. Can also furnish for Saco-Lowell and Whitin spinning frames.

These Pulleys are compression moulded from rag-filled phenolic resin; non static, high impact strength. Equipped with precision, prelubricated, sealed ball bearings. Re-lubrication is required only once a year. These Pulleys use less power, require less maintenance, give longer tape life and smoother operation. Brackets can be furnished to your requirements. Drop us a line for complete information.

MEADOWS MANUFACTURING CO.
ATLANTA, GEORGIA

Shorts and Remnants

lized Hosiery in France." Miss Europe of 1954 (seated right) led the bevy of French Models who introduced the new American hosiery finish.

► Maybe we had better get up a "Trade Names Issue." K. V. Curtis. Cowa Trading Co., writes to get the name and address of the maker of EXI-FLO cotton opening and cleaning—that's AXI-FLO by Whitin Machine Works, Whitinsville, Mass. A throwing mill in Tennessee wants to know the maker of AUTOCLAVE. Our good Managing Editor, J. Frank Guest, helped on this as well as the above. We ran a page advertisement in June on the HY-VACUUM PRESSURE AUTOCLAVE of Gaston County Dyeing Machine Co. Acme Cotton Products Co., Inc., New York, N. Y., looked for a roll picker ad "M-B". This is MB Products, Detroit, Michigan, and we hope they will be back in our pages for 1955. Then George A. Harris of Fairfax Mill Division, West Point Manufacturing Co., wanted to know the manufacturer of "ROLL-ON Sealer" as per a news item in TEXTILE INDUSTRIES. That's Techtman Industries, Milwaukee, Wisconsin.

► Any more questions today?

What to do with 5,000 Doz Anklets?

"I note with interest your report of a course to train looping operators at the Dobbins Vocational School, Philadelphia. I am wondering if you can advise what disposition they make of the goods produced in such a teaching program. We recently concluded a looper training school which we carried out with the Vocational Dept. of the local high school but find ourselves burdened with about 5,000 doz cotton anklets which are not eligible for interstate commerce. . . . "

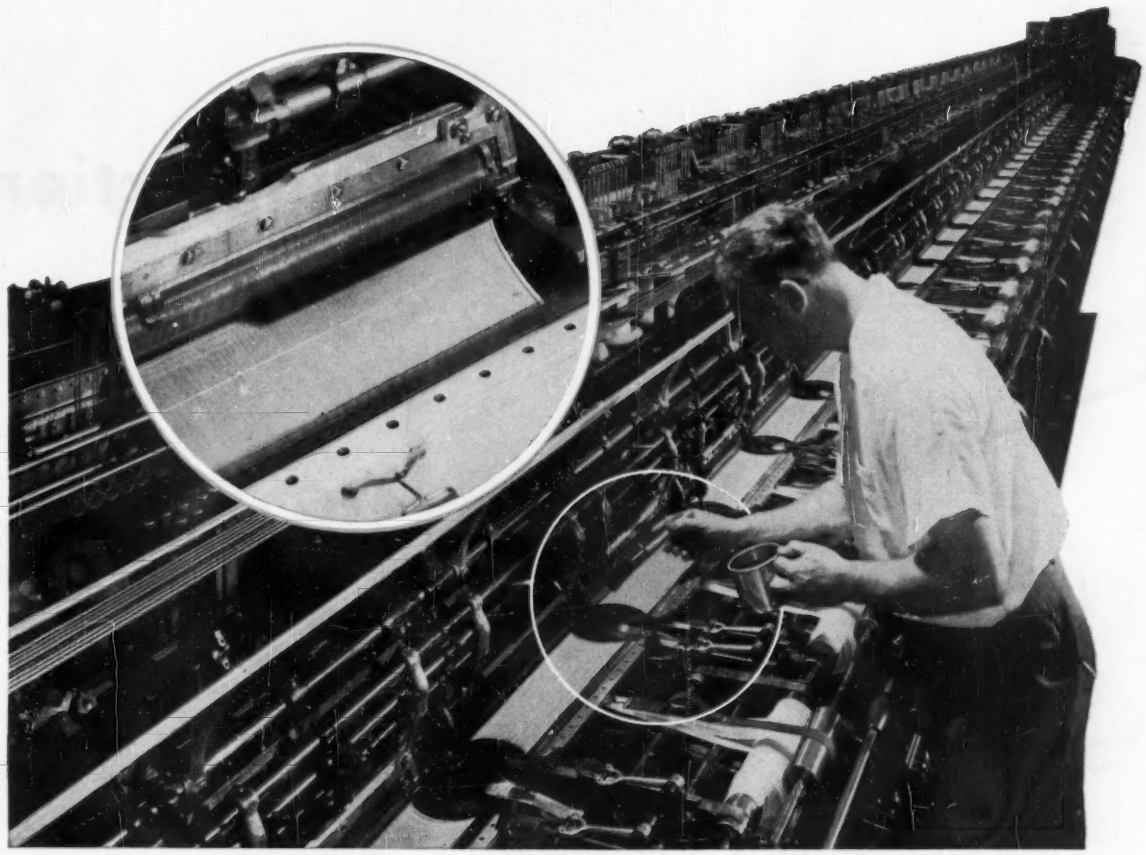
E. R. LINGERFELT
Crescent Hosiery Mills
Madisonville, Tennessee

Textile Dictionary

"We have a representative in Johannesburg, South Africa, who is desirous of obtaining a technical dictionary of textile technical terms. . . . "

EMIL S. DAVIS
Treasurer
Standard-Coosa-Thatcher Co.
Chattanooga, Tennessee

► Several such books are avail-



For smoother knitting and fewer seconds use non-staining

GULFTEX OIL

Full-fashioned hosiery mills using Gulftex Oil report that it keeps needles clean and smooth, thus contributing to smoother knitting with fewer seconds.

Gulftex Oil also resists gumming and aids in the prevention of buildup of size on the needles. And its superior non-staining characteristics make it a valuable lubricant for any application where the staining of fabrics is a problem. It is easily applied with spray or brush.

Make your next order for needle oil an order for more effective lubrication by specifying Gulftex. Call your nearest Gulf office and have a Gulf Sales Engineer demonstrate the advantages of Gulftex Oil in your mill. Gulf Oil Corporation · Gulf Refining Company, 1822 Gulf Building, Pittsburgh 30, Pennsylvania.

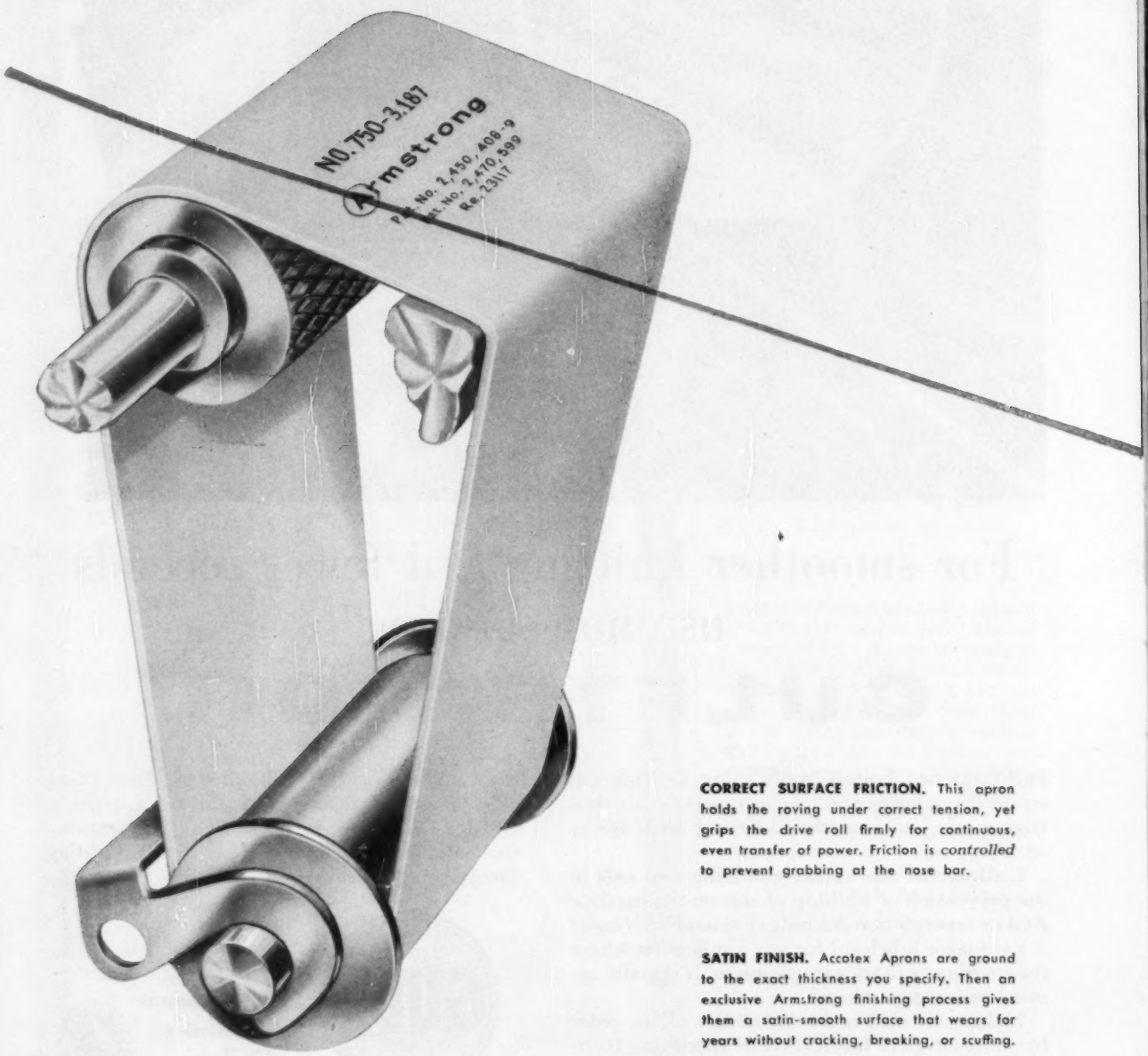
GULF

support Junior Achievement

Junior Achievement Week
January 30-
February 5, 1955

The finest petroleum products for your every need

For smooth drafting action



CORRECT SURFACE FRICTION. This apron holds the roving under correct tension, yet grips the drive roll firmly for continuous, even transfer of power. Friction is *controlled* to prevent grabbing at the nose bar.

SATIN FINISH. Accotex Aprons are ground to the exact thickness you specify. Then an exclusive Armstrong finishing process gives them a satin-smooth surface that wears for years without cracking, breaking, or scuffing.

on single-apron equipment

SUPER-FLEXIBLE ACCOTEX NO-750 APRONS

To get the smooth drafting action that means top-quality yarn on single-apron equipment, many mills are switching to Armstrong NO-750 Accotex® Aprons. These aprons are made of a special rubber compound which combines the extra flexibility and correct surface friction needed to maintain good yarn control.

NO-750 Aprons are smooth enough to slip freely over the nose bar, yet they grip the drive roll firmly and deliver smooth, even drafting action. The seamless construction of NO-750 Aprons eliminates the bumping and buckling that can cause irregular drafting and uneven yarn.

Armstrong NO-750 Aprons have long life, too. Their surface is specially treated to resist abrasion and cracking, and a tough core of cotton cord prevents stretching and curling at the edges.

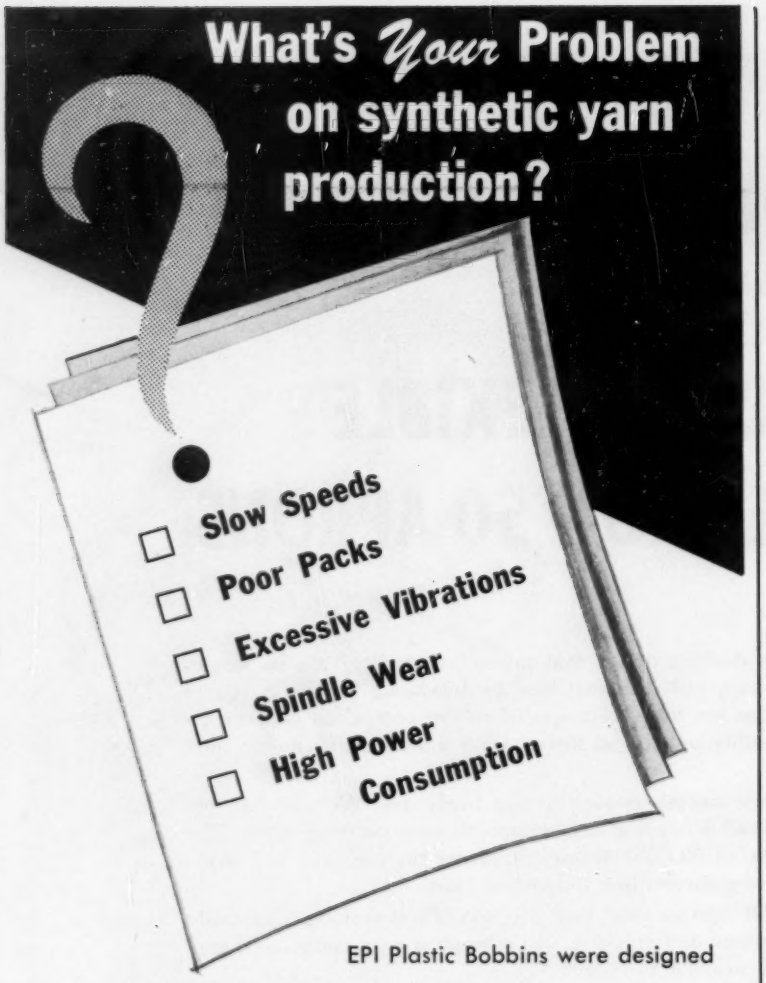
Try a few test frames of NO-750 Aprons yourself. Your Armstrong man will be glad to furnish samples. Get in touch with him or write us direct.

Send for booklet, "Armstrong Textile Roll Coverings and Mill Supplies." Gives suggestions on selection, installation, maintenance of Armstrong textile products. Write Armstrong Cork Company, Industrial Division, 6401 Ivy Street, Lancaster, Pennsylvania.

FOR DOUBLE-APRON SPINNING, use the Armstrong NO-7075 Accotex Apron. White inside, black outside, it's designed to spin clean, uniform yarn on the latest long-draft equipment—year after year.

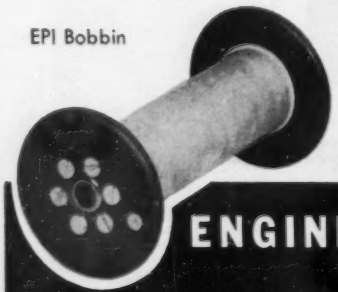
Armstrong Accotex Aprons

. . . used wherever performance counts



EPI Plastic Bobbins were designed to solve these problems . . . and the millions of pounds of highest-quality synthetic yarns which they have produced prove that they have been successful. If you have any of these problems it will pay you to investigate the many advantages of EPI Bobbins . . . the only bobbin that has always been dynamically balanced.

EPI Bobbin



New England Representative:

J. H. Windle, Jr., 231 S. Main St., Providence, R. I.

ENGINEERED Plastics

INCORPORATED

Gibsonville, North Carolina

Shorts and Remnants

able, including "Callaway Textile Dictionary," Callaway Mills Co., LaGrange, Georgia, and "The Modern Textile Dictionary" published by Duell, Sloan and Pearce, Little, Brown and Co., New York.

Cavitomic Cotton

"Do you have available either tear sheets or photostatic copies of an article on Cavitomic Cotton by L. T. Hall and J. P. Elting [TI Nov. '53]. . . Our Superintendent of Dyeing and Finishing is interested.

C. L. ECKLER
Purchasing Agent
Belding Heminway Corticelli
Putnam, Connecticut

► Tear sheets of this article and also "Cotton's Minor Constituents" [TI Nov. '52] furnished Mr. Eckler.

Draft Proportionment

"We would like very much, if possible, to secure five copies of a reprint that you made on Draft Proportionment by Messrs. Corley and Simpson . . . [TI Dec. '52]."

P. H. BURRUS, JR.
Vice-Pres. & Gen. Mgr.
Jackson Mills
Wellford, S. C.

"You ran an article on Draft Proportionment for coarse, short-staple cotton on long-draft roving systems. We received a reprint of this and since that time we have had a considerable number of mills to request copies. . . . "

R. W. DUNN
Southern Agent
Whitin Machine Works
Spartanburg, S. C.

► We are "plumb" out of reprints on this article, but copies may still be had from SRRL, 2100 Robert E. Lee Blvd., New Orleans, La.

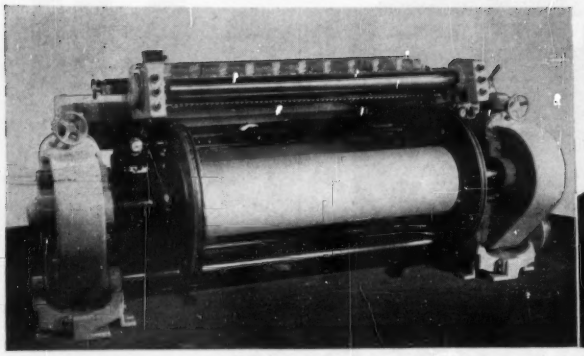
Flammable Fabrics In Tokyo

"The U. S. Information Service in Tokyo, Japan, has just sent us copies of their reprint of George S. Buck's article "The Flammable Fabrics Act" [TI Oct. '53]. We are enclosing two copies of the reprint. . . . "

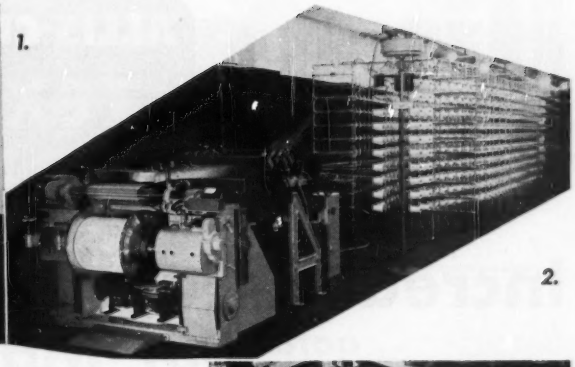
LOUIS A. FANGET
U. S. Information Agency
Washington, D. C.

► Reprint from Japan was in miniature with a black border—everyone in America, including the

ALLIS-CHALMERS



1.

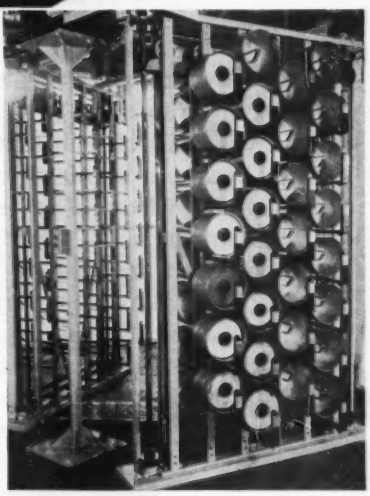


2.

Why More Mills are Turning to Cocker Every Month

The Cocker exhibit at Atlantic City gives a partial answer. It included FIVE new warp preparation machines, each one far in advance of anything else ever offered to textile mills.

1. *New 32" Rayon Warper*
2. *New 21" Tricot Warper*
3. *New Cheese Creel*
4. *New 40" Cotton Warper*
5. *All-New Combination Cocker All-Purpose Slasher*



3.

Cocker Has Pioneered

Almost without exception, every valuable new feature on warp preparation equipment has appeared *first* on Cocker machines and has been incorporated in competitive equipment only after a lapse of several years. Even more important, no new feature introduced by Cocker has ever been discontinued because it failed to perform satisfactorily. Research by Cocker's engineering staff has often worked out new problems before the trade was fully aware of them.

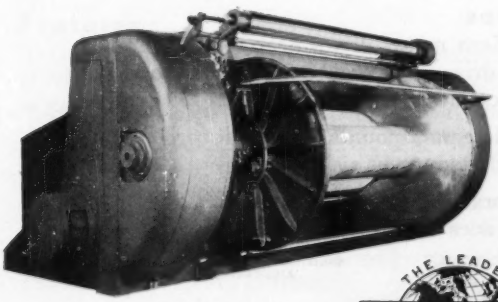
Cocker Has Complete Manufacturing Facilities

Cocker maintains its own foundry, metal shop, and machine shop . . . and Cocker's own superintendents and shop foremen provide close supervision on every step in the production line.

Cocker Specializes in Warp Preparatory Equipment

Cocker produces every piece of equipment you need for superior warp preparation . . . for every type of yarn. For a single machine, or for a complete warp preparation room installation you can call on Cocker with confidence.

Write, wire, or telephone for full information.



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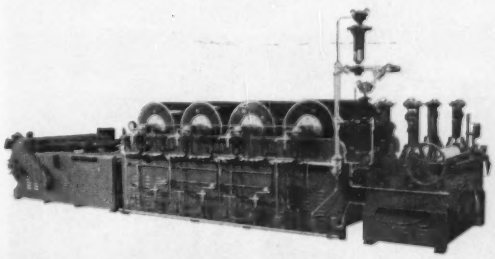


5.

THE LEADER COCKER AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

through the mill

ALLIS-CHALMERS

TEXTILE DRIVES

All

Increase Quality and Production ... Cut Maintenance

Power Packages . . . Get complete coordinated equipment from power line to the driven shaft of your textile machinery. Allis-Chalmers textile drives result from thorough knowledge of power requirements throughout the plant. Each unit described here has been designed to get maximum efficiency, output and continuity of service from a specific type of machine. Motor, control and drive characteristics are all tailored to the job, and long operating experience has proved their effectiveness.

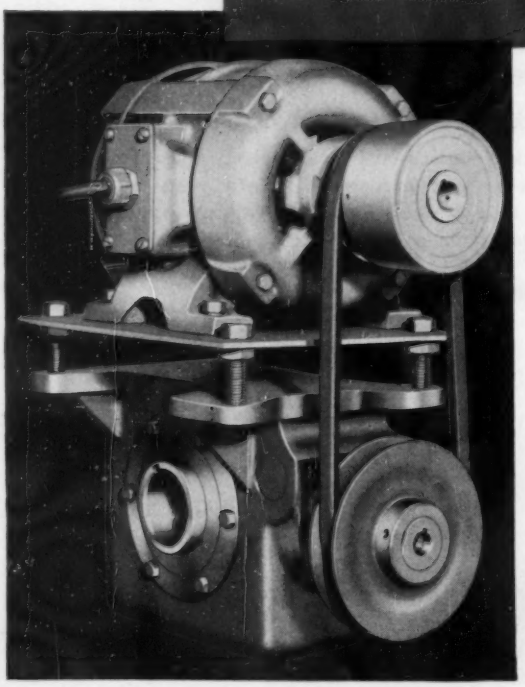
Backed by Certified Service

Allis-Chalmers distributors and district offices in all major textile areas offer skilled application help. Well-equipped and conveniently located Certified Service Shops provide factory-approved methods and parts to keep your drive equipment operating at top efficiency.

Get This Literature

Handy Guide to Motor Selection (Bulletin 51B6052) —*Quick-Clean* Textile Motors (51B6055B) —Across-the-Line Starters (14B7132) —Reduced Voltage Starters (14B7215) — and *Vari-Pitch* Drive Engineering Data (20B7499). Call your nearby A-C District Office or write Allis-Chalmers, Milwaukee 1, Wis.

CARDING



Individual Card Drives Make Card Rooms Cleaner, Safer

Individual card drives do away with unsightly and dangerous overhead line shafting and long belts. No hard-to-clean ceiling structure to drop dirt and grease in machines — better lighting and plenty of ceiling room to install air conditioning.

Features

Quick-Clean motor drives gear reducer through *Texrope* drive and mercury clutch. Sheave adjustable for cylinder speeds from 157 to 189 rpm.

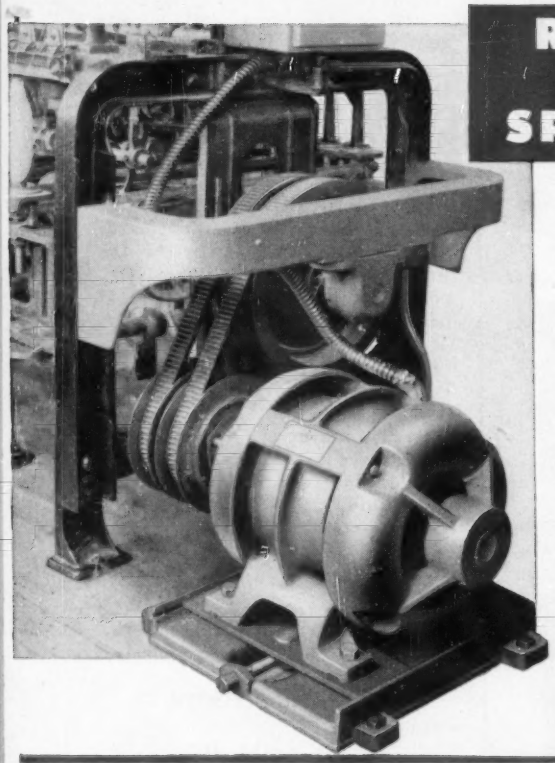
- Complete unit mounts on present card cylinder shaft and fits present aisle space.
- No vibration or strain on card arch, and weight of drive does not overload bearing.

Quick-Clean, Vari-Pitch and Texrope are Allis-Chalmers trademarks.

A-C ALLIS-CHALMERS

ALLIS-

through the mill



ROVING and SPINNING

Lint and Dirt Can't Stop *Quick-Clean* Textile Motors

Wide open air passages and powerful fans sweep dirt and lint right through and OUT of these motors. They end motor problems created by lint-laden atmospheres.

Features

Bearings: sealed, prelubricated double-width single-row ball bearings operate long periods without attention of any kind. May be cleaned and repacked if required.

- Slow-acceleration motor for roving frames. Takes almost three times as long as standard motor to reach speed. No special control required.
- *Texrope* V-belt drives and correct control supplied to meet complete machine drive needs.

WEAVING

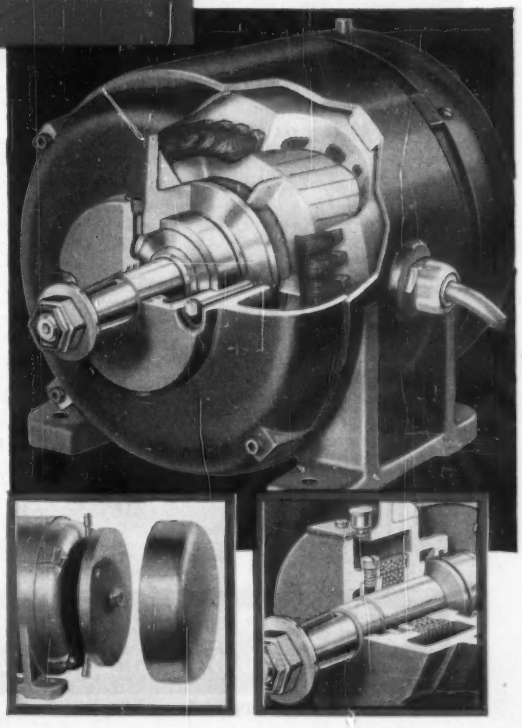
New Motor Design Licks Problems of Modern High Speed Operation

Oversize rotor, stator and bearings built to handle rapidly oscillating load of loom speeds as high as 200 picks per minute and more. Rotor diameter is as great as possible for added flywheel effect, and slip has been regulated to produce minimum speed variation. Nearly two years of field testing prove the operating economies possible.

Features

Totally enclosed, non-ventilated design excludes all lint from interior.

- Stator double insulated, extra large, heavy construction.
- Die cast rotor of large diameter and proper slip maintains stable speed under pulsating load.
- Oversize ball bearings of double-shielded type protect against over-greasing that causes bearing trouble.
- Optional: (1) flywheel for added inertia and (2) waste-packed bronze sleeve bearing.



A-4538

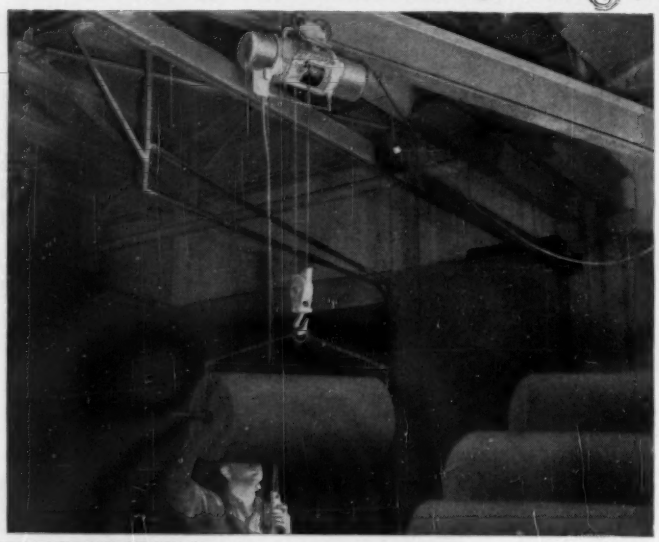
CHALMERS

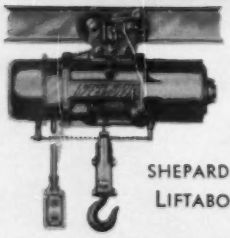
SHEPARD NILES

LIFTABOUT-JR.

PACE SETTER

on your production line





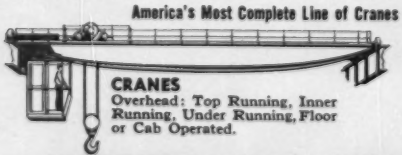
SHEPARD NILES
LIFTABOUT-JR.

MEN AND MACHINES both produce faster when a Liftabout-Jr. carries the load! Manual lifting and lugging are banished . . . the worker puts the load right where it's wanted with ease. Ideal for "spot" handling or for speeding raw materials and products along your production line.

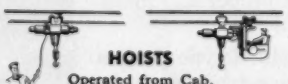
Shepard Niles Liftabout-Jr. is built to withstand years of use and abuse . . . it's the toughest medium-service hoist money can buy. Available with either rope or push button operation . . .parallel or cross-mounted with bolt, hook or trolley suspension in 250, 500, 1000 or 2000 lb. capacities.

Send for Hoist Bulletin today . . . and request a Shepard Niles representative to call. He'll give you the facts on the complete Liftabout-Jr. line . . . help you select the hoist with the right capacity and controls for your lifting job.

America's Most Complete Line of Cranes and Hoists since 1903



CRANES
Overhead: Top Running, Inner Running, Under Running, Floor or Cab Operated.



HOISTS
Operated from Cab, Floor or Pulpit.

SHEPARD NILES
CRANE AND HOIST CORPORATION

1968 Schuyler Ave., Montour Falls, N.Y.

Shorts and Remnants

wives of mill men, had already studied the story in TI months ago.

Interest in Exec Views

"I have always been interested in the articles under the heading 'An Executive Views the News in Textiles.' Of particular interest to me is the one in the September issue. . . . Possibly Executive would enlarge somewhat on this subject in the future, because the situation as pinpointed by the chart would seem to be worthy of further analysis."

FRANK VOGEL
Consultant
Pawtucket, R. I.

► Mr. Vogel sends along charts to show 1953 textile profits better than 1952. "Executive" says he is going around on a rosy cloud because he has positive and visible proof that he has a reader.

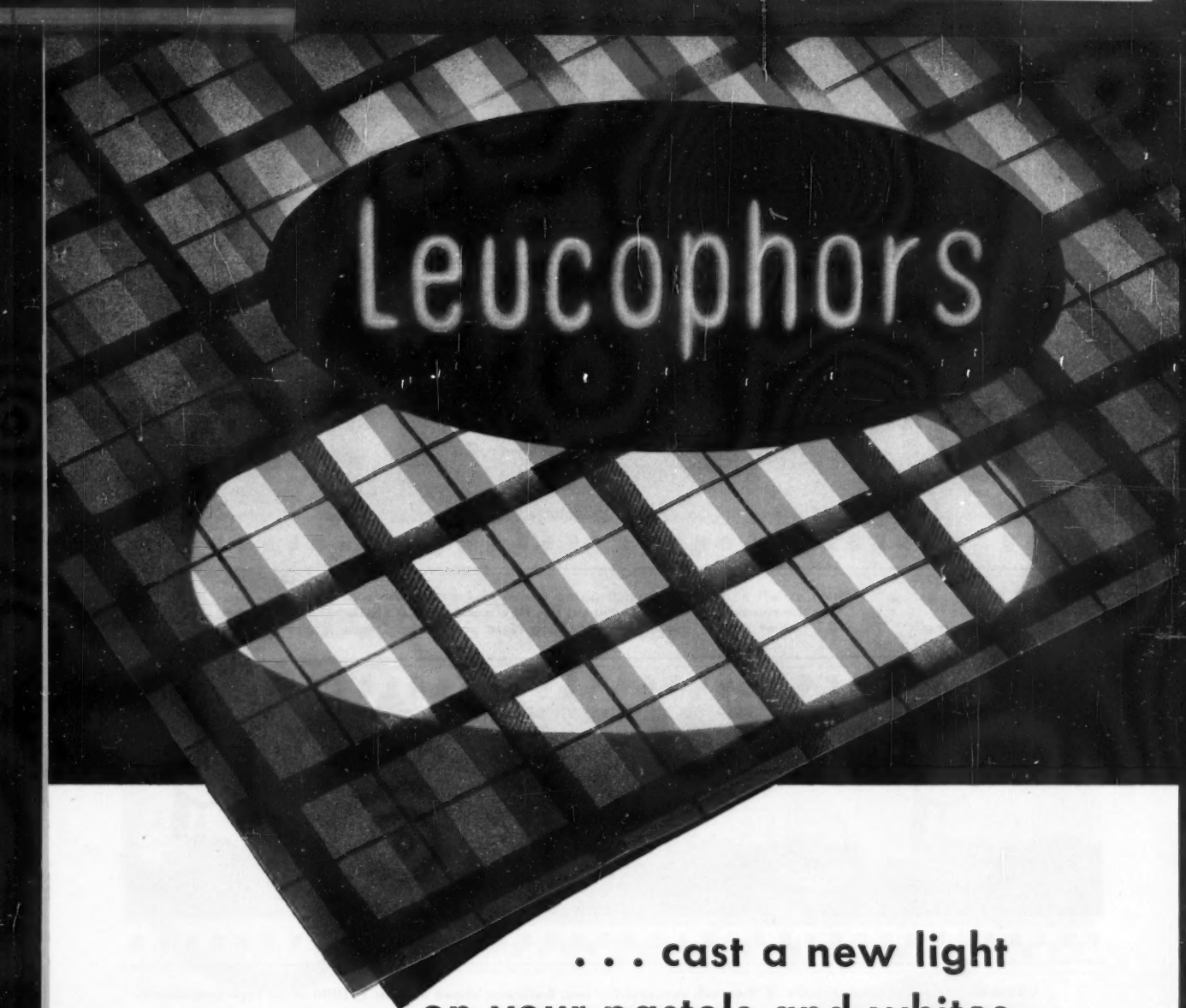
The Best

" . . . I trust that my ratings will be of interest and assist you in producing the best Textile Industry Publication in America."

JOSEPH SCHMITZ, JR.
President
Universal Dye Works, Inc.
Philadelphia, Pa.

► TEXTILE INDUSTRIES is surveying readers to find out what they read in our pages. So far it is very heavy for New Equipment. Please vote for Ole S&R. Somebody must read S&R—well, parts of it, anyway.

► Pardon the repetition, but we can't close without saying it again—TI's editorial and business representatives' wish for each and every one of you is



. . . cast a new light on your pastels and whites

Meet the line of *optical brighteners* that brightens cotton, rayon, wool, nylon, acetate, silk, Orlon, Dynel.

Sandoz Leucophors brighten fabrics by absorbing invisible ultra-violet light and re-emitting it as visible light of longer wave length. Result: whiter whites and brighter brights that just naturally catch the eye.

Get full details on the Leucophor that best meets your current needs from your nearest Sandoz office: Hudson, Mass.; Fairlawn, N.J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N.Y. B.4.1

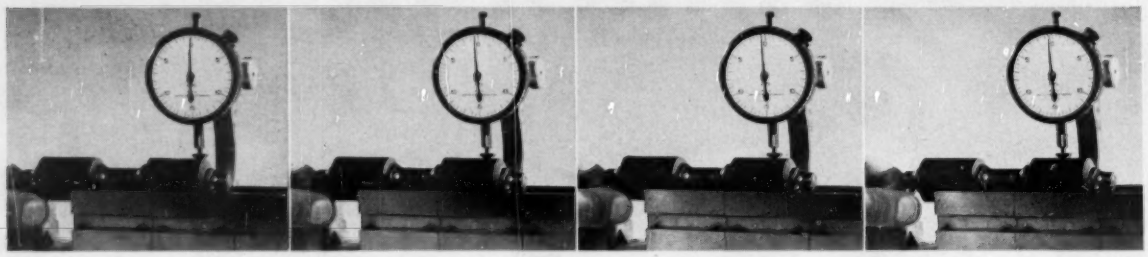
SANDOZ

SANDOZ

THINKS AHEAD WITH TEXTILES

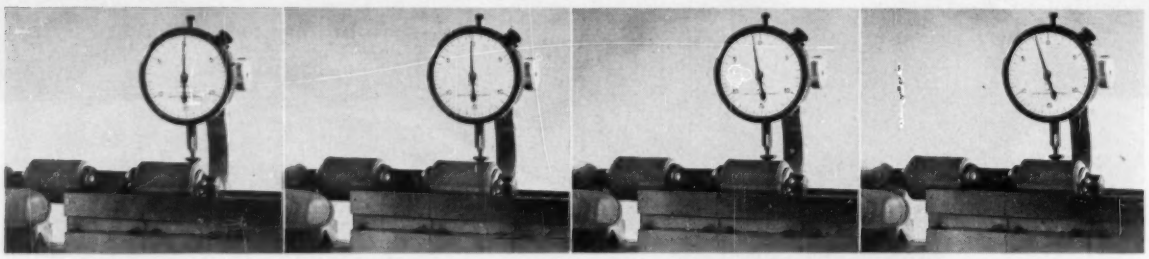
DAYCO COTS Stay True,

DAYCO EW-465 COTS



Start at left and compare each photo frame above with the one directly below. Note the remarkable lack of wear on the Dayco IBC Cot as against that of Brand "B" Cot as each is moved from left to right across the Dayco Roller Gauge.

Brand "B" COTS



Actual unretouched photographs of 9-month competitive test. Indicator shows wear in 1/1000 of an inch increments.

Here is proof of the superiority of Dayco Cots! These *un-retouched* photographs—taken after 9-month competitive test — prove Dayco EW-465 Cots with IBC, non-eyebrowing ingredient, last longer, do not groove.

Dayco Cots (top) were tested side by side on the same frame with competitive cots, using the same yarn, under identical conditions. After 9 months of testing, Dayco EW-465 Cots stayed truer, never exceeding 1/1000" in wear as proved by the Dayco Roller Gauge Test. The gauge proved competitive cots (Brand "B") began to groove, needed re-buffing more quickly.

Brand "B" cots exceeded the serviceable standard at the end of the 9-month test while Dayco Cots had many service hours yet remaining.

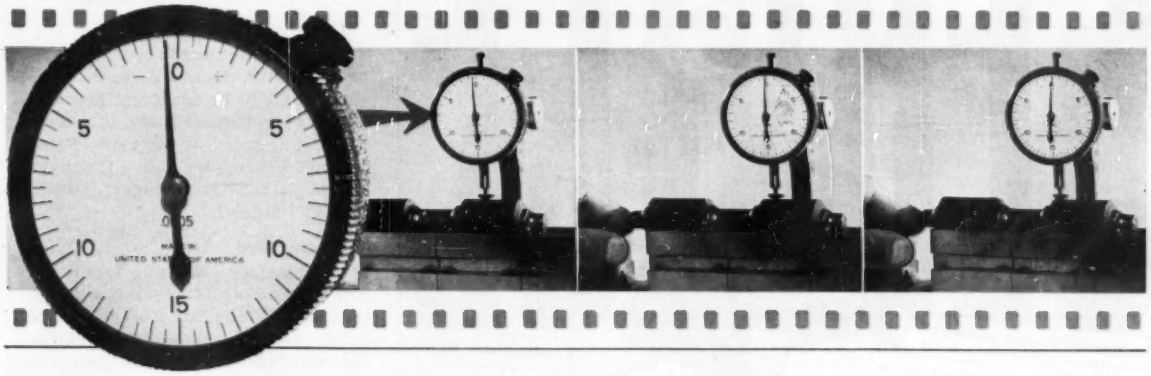
Dayco EW-465 Cots consistently outperform other cots because rigid control of the synthetic rubber compounds insure uniformly correct surface texture, cushion and friction. Only Dayco EW-465 Cots contain the amazing new ingredient, IBC, to combat and control eyebrowing. The chemical and mechanical action of IBC sets up the right coefficient of friction to eliminate the eyebrowing problem.

Because of Dayco Cots' extremely durable surface, perfect cushion, and exactly right coefficient of friction, they retain their superior physical properties throughout their long service life. In fact, Daycos' drafting ability *improves* with use!

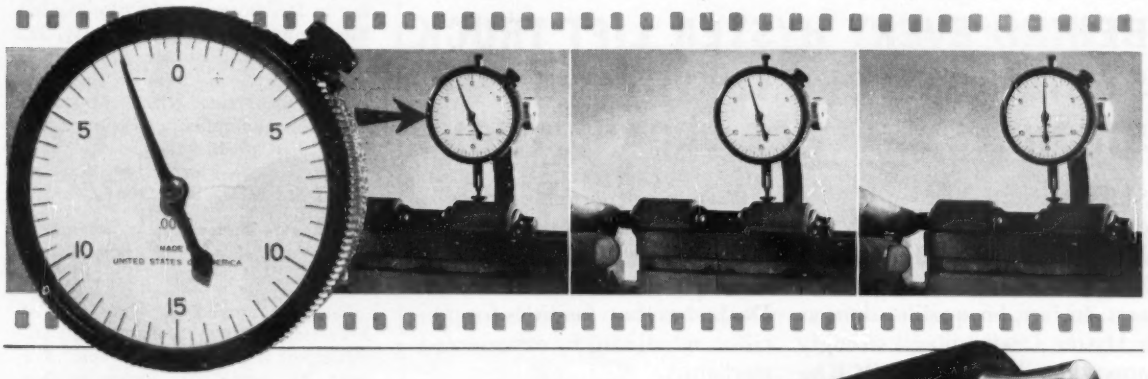
You benefit the instant you equip your frames with Dayco Cots. You can expect, and get, improved yarn quality, valuable savings in time, materials and labor and increased production at the lowest possible replacement cost. Try Dayco EW-465 Cots on your frames for personal proof of their performance. See your Dayco Representative for complete details.

Compare these Dayco features against any other cot...

Do Not Groove by Actual Test!

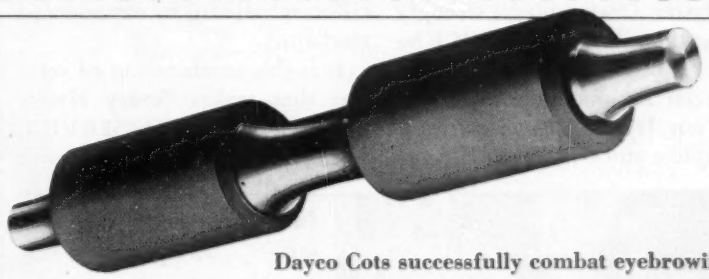


(Magnified Photo of Roller Gauge Measurement in exact center of cot.)



DAYCO COTS

- Successfully combat eyebrowing
- Create fewer lap ups and ends down
- Require fewer buffings
- Don't groove, pit or develop flat spots
- Unaffected by moisture or temperature changes
- Need fewer clearer board cleanings
- Draft better quality yarn
- Lower overall cot costs



Dayco Cots successfully combat eyebrowing

Actual mill tests prove New Dayco Cots with IBC ingredient successfully combat eyebrowing, draft better yarn and run longer between buffings on all types of frames.

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Your Hyster Dealer carries a complete stock of parts, and offers an efficient field service—your assurance that your job will keep moving, wherever it is. Besides parts stock, your Hyster Dealer has shop facilities for precision rebuilding by experienced mechanics.

It is this combination of services that makes "every Hyster Dealer a Lift Truck SERVICE Station". . . . It is your Hyster Dealer's responsibility to furnish prompt, efficient service—and parts at a reasonable cost, *wherever you are* (and there are over 350 locations around the world). If you are not acquainted with your Hyster Dealer, send for Catalog 1277.

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THERE'S PROFIT IN HYSTER POWER

FOUR FACTORIES: Portland, Oregon; Danville, Illinois; Peoria Illinois; Nijmegen, The Netherlands

Personal NOTES

ABOUT MEN YOU KNOW

Robert E. Covington has joined Allendale Mills, Mount Airy, N. C., as vice-president in charge of manufacturing operations. He also is a member of the board of directors. Before joining Allendale, Mr. Covington served as general manager at Roanoke (Va.) Mills, Inc.

Joining Ameroton Corp. as vice-presidents are **Samuel Boosin** and **Morris Gardner.** Mr. Boosin is founder and president of Rutger Fabrics Corp., and formed Rutger Textiles, Inc. with Mr. Gardner last year. Operations of both companies will be concluded in an orderly manner and all commitments will be completed shortly after the first of 1955, according to Mr. Boosin. * * * Also joining the company is **Ely R. Callaway, Jr.,** as a vice-president. Mr. Callaway is administrative assistant to the company's executive vice - president, Burke M. McConnell, and is in charge of finished goods sales and merchandising. He was formerly associated with Deering, Milliken Inc.

James J. Kelley, Jr., is serving as a chemist at Bates Finishing, Haverstraw, N. Y.

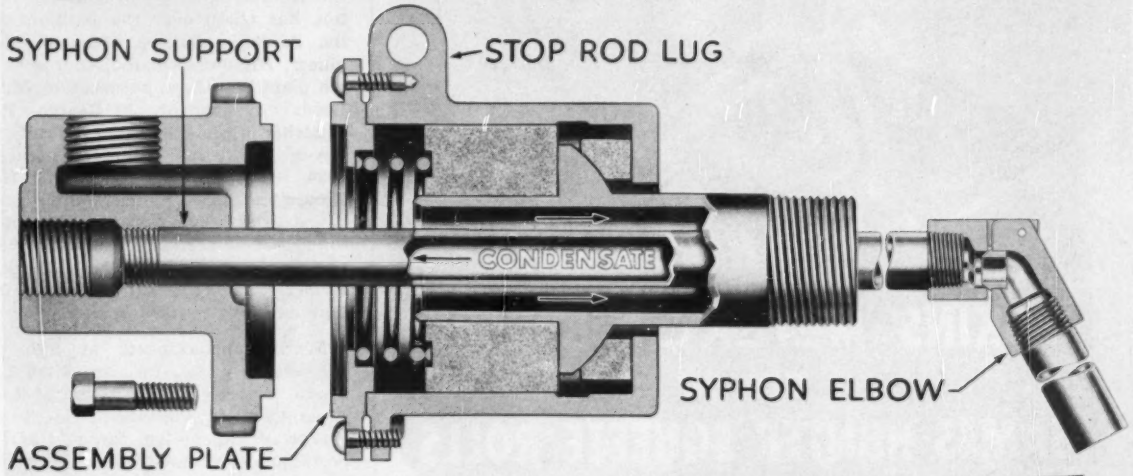
Recently named vice-president of American & Efird Mills, Thread Division, is **Harold P. Zettwoch.** For over 25 years Mr. Zettwoch has served in various capacities with Coats & Clark, Inc. He will be headquartered in Lawrenceburg, Ky.

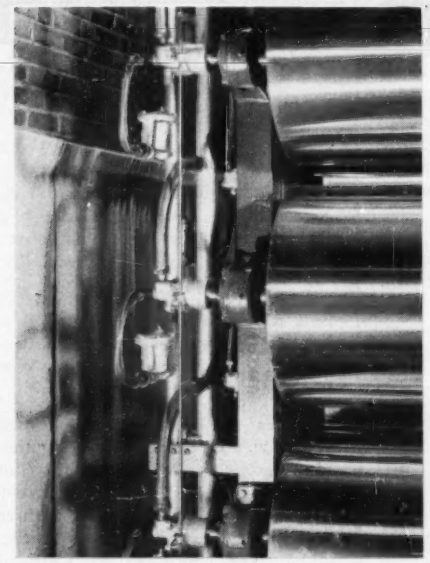
Bachmann Uxbridge Worsted Corp. has named **W. J. Thornley** general manager of the company's southern operation with headquarters in Cedartown, Ga. Mr. Thornley, who has been with the company for 31 years, succeeds Alden R. Walls.

Formerly general manager of the Anniston (Ala.) Manufacturing Co., **Homer Roberts** has recently joined Bama Cotton Mills at Enterprise, Ala., and Riverview and Geneva Cotton Mills at Geneva, Ala., serving in this same capacity.

John Murphy has retired as chief engineer of the Bates Manufacturing Co. His duties have been assumed by **William B. Lewis,** who prior to this promotion served as plant engineer of the Edwards division of the company. **William T.**

Made for each other . . . and for dry cans!





Type S-B2P Johnson Joints installed on dry cans in southern mill. Syphon connection in each roll utilizes new Johnson syphon elbow, which ends many troubles of the ordinary curved syphon pipes. Joints are entirely self-supporting, with flexible hose used for connections to permit freedom of movement. Special assembly plate on joints permits ready removal of head to get at spyhon pipe.

Type S-B2P JOHNSON JOINT and JOHNSON SYPHON ELBOW

The syphon elbow at right in the illustration is the newest Johnson development. It permits use of straight pipe for the syphon drainage line, and can be inserted or withdrawn right through the joint.

Perfect team mate for it is the Type S-B2P Johnson Joint. It has a special assembly plate to hold internal parts in position when head and syphon pipe are removed. It is completely packless and self-lubricating, and requires no supports of any kind.

Working together, these two introduce far greater efficiency to the task of getting steam into dry cans, and getting condensate out again. The joint incorporates several design changes that make wearing parts even longer lasting. The Syphon Elbow assures proper location of the Syphon Pipe and permits inspection, in most cases, while the machine is in operation.

Test it yourself. Thousands of installations have already proved the merit of this new combination. We will gladly furnish a pair of units for 90 day trial in your mill, with no obligation to you.

Why not take us up on this trial offer? Write today for details, and complete literature.

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815 WOOD ST., THREE RIVERS, MICH.

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

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JENKINS' METLKOR BRUSHES

are on

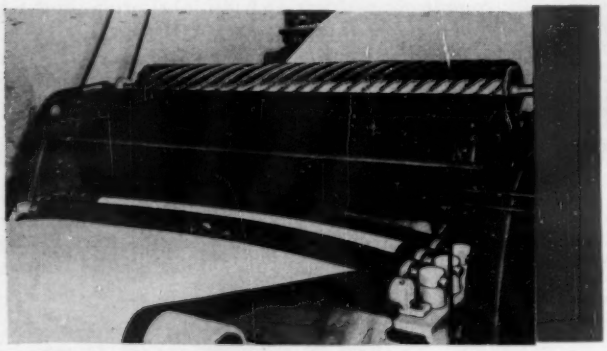
JAMES HUNTER SQUEEZE ROLLS

James Hunter Machine Co., North Adams, Mass., wanted a brush to stand up when removing acidified flock from their Carbonizer Squeeze Rolls. Jenkins' engineers designed a METLKOR brush with exposed metal parts of stainless steel and bristle of acid-resistant Nylon.

Mr. Frank B. Morrill, Chief Engineer, James Hunter Machine Co., says: *". . . we have been using Jenkins' brushes for flock removal on our Squeeze Rolls for about three years . . . They do a much better cleaning job than the brush previously used, and stand up several times longer . . ."*

This top textile machinery manufacturer has time-tested and proven the efficiency of patented Jenkins' METLKOR—the cylinder brush that lasts *many times longer* and *can be rebristled!* It can cut *your* brush replacement costs and do a better job, too.

If you have any standard or special brush problem, call or write: M. W. Jenkins' Sons Inc., Cedar Grove, Essex County, New Jersey.



A JAMES HUNTER CARBONIZER SQUEEZE ROLL
WITH A JENKINS' METLKOR NYLON BRUSH

M. W. JENKINS' SONS, INC.

Over Three-Quarters' Century of Pioneering Brushes for Industry.

Cedar Grove, Essex County, New Jersey

Personal NOTES ABOUT MEN YOU KNOW

Harvey, formerly plant engineer of the Androscoggin division in Lewiston, has taken over the position at the Edwards division of plant engineer. His duties at the Androscoggin plant have been absorbed by Mr. Lewis' department. ***George B. Thatcher,** who has been cotton buyer for the company since 1934, has retired. **Howard H. Troutman** has assumed this position, after serving as assistant cotton buyer and cotton classer for the past two years. **Richard B. Clark,** formerly assistant cotton classer, is now assistant cotton buyer.

Recent appointments at Sidney Blumenthal & Co., Inc., are **Allan E. Shore,** formerly vice-president of the Amerotron Corp., as vice-president in charge of automotive, carpet, transportation, government and industrial fabrics; and **Ned Feldman,** vice-president for administration, in which capacity he is responsible for the supervision of the financial and administrative activities of the company. He was previously assistant to the president of Robbins Mills Co.

Joining Botany Mills, Inc., Passaic, N. J., as treasurer and controller, is **Ernest N. Chamberlain,** who succeeds **D. H. Tyson,** resigned. Mr. Chamberlain formerly held the same position with Goodall-Sanford, Inc.

Border City Manufacturing Co., Fall River, Mass., has elected **Bradford C. Durfee** treasurer of the company. He succeeds **Charles F. Winslow,** retired.

James A. Burke, who for many years was treasurer of Sagamore Manufacturing Co., was recently honored by Bradford Durfee Technical Institute, Fall River, Mass., with the honorary degree of Master of Science, which was conferred by **Leslie B. Coombs,** president.

The "Textile Award" was recently presented by the Textile Section of the New York Board of Trade to **J. Spencer Love,** chairman of the board of directors of Burlington Mills Corporation, for his outstanding contributions to the industry. Mr. Love has spent 35 years in the textile field, and was one of the founders of Burlington Mills Corporation, now the largest textile producer in the world.

At the annual meeting of The Carded Yarn Association, Inc., **Karl**

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is in a class by itself!

TWENTY YEARS of continuous research by the leading manufacturer of nonionic surfactants, has culminated in this superior 100% active ingredient IGEPAL, which is *tops in performance* because it is *tops in quality*. Consider these new "plus" features:

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Igepal CO-630 is one of a series of 8 Igepal CO brands that range from the oil-soluble Igepal CO-430 to the extremely hydrophylic Igepal CO-880. A new booklet has been prepared giving complete technical data on this important group of surfactants. Send for it today.

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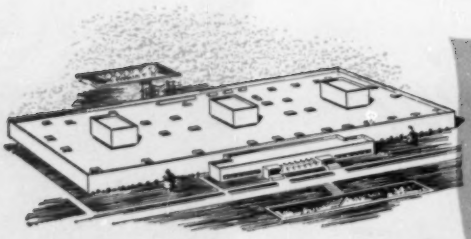
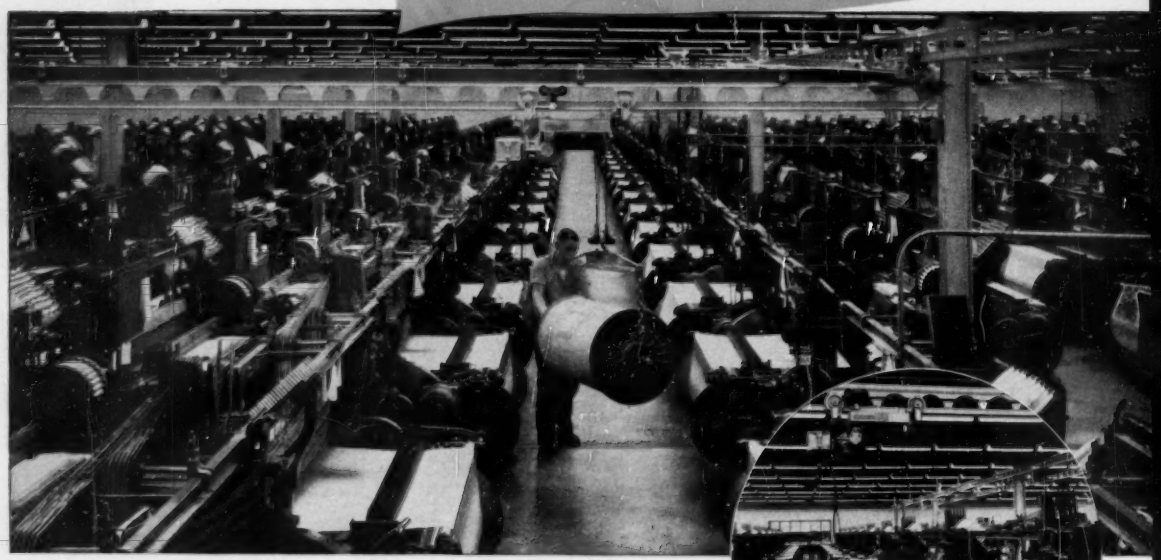


Ultra Modern GERRISH-MILLIKEN MILL



Heavy rayon loom beams, weighing up to 1,500 lbs. are easily handled by one man to all points in the large weave room by the interlocking overhead cranes which permit a carrier with load to be run from one crane to another.

Tramrail makes the loading of big beams into the looms a fast, easy and safe one-man operation.

Probably the finest, best-equipped and most modern rayon cloth plant in the country is the Gerrish-Milliken Mill in Pendleton, S. C. This beautiful air-conditioned, spotlessly clean building is provided with Cleveland Tramrail overhead materials handling equipment throughout.

Being a quality-conscious concern, producing the finest grade rayon cloth, it was quite natural that Cleveland Tramrail equipment was chosen for this mill because of the success with it at other plants in the Gerrish-Milliken group.

The arch-beam tracks, cranes and bridges are all of one-ton capacity. The hoists vary from 1,000 lb. to 2,000 lb. capacity, depending upon the application, and are all electrically powered to lighten worker fatigue. By using the same size track system throughout, even though lighter trackage would be ample for most present applications, flexibility is assured in case it should become necessary to rearrange the overhead equipment to accomodate a different production flow in the future.

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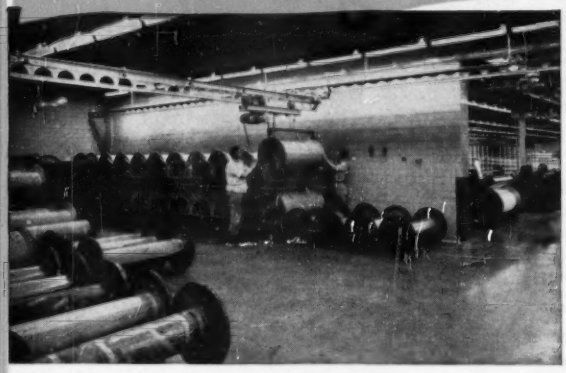
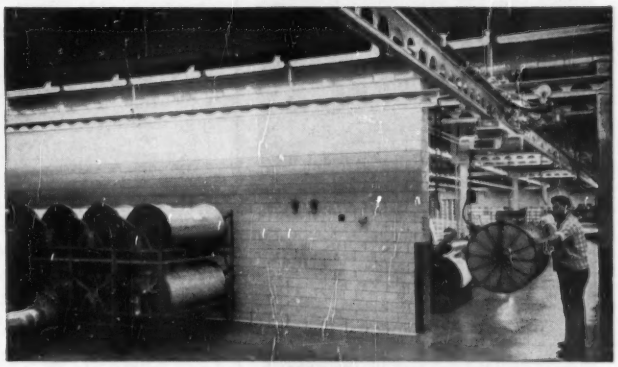
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

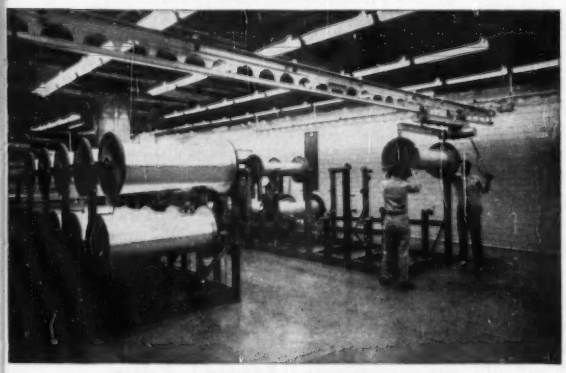
Served throughout by CLEVELAND TRAMRAIL



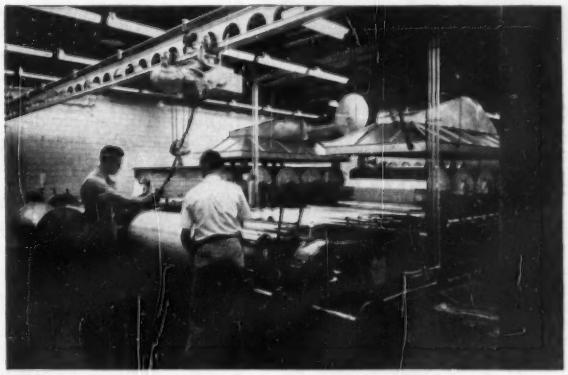
Placing beam into slasher-beam storage rack. This is the same beam shown coming through doorway in other view.



A short stationary spur track in this doorway provides connecting link between a transfer crane in the warper department and another crane in the slasher room. When the cranes are interlocked with this spur, loaded Tramrail carriers can be transferred from one crane to the other. This enables delivery of beams directly from warpers to slashers or to slasher-beam storage without in-between handling or transferring to other conveyances.



The same crane seen in above photos is used to set beams into slasher creels. Note the great length of this and other cranes in this mill. Despite their length, the cranes roll smooth and easy regardless at what location the load is on the crane.



Loom beams are removed from the slashers with the same Tramrail crane which is used for loading them. A different hoist carrier will be noted on the crane from that in other views because seven different type Tramrail carriers are provided and these travel with their loads to various parts of the mill.

OTHER GERRISH-MILLIKEN MILLS EQUIPPED WITH CLEVELAND TRAMRAIL

Excelsior Mills	Clemson, S. C.
Darlington, Mfg. C.	Darlington, S. C.
Gaffney Mfg. Co.	Gaffney, S. C.
Judson Mills	Greenville, S. C.
Laurens Cotton Mill	Laurens, S. C.
Monarch Mills	Lockhart, S. C.
Pacolet Mfg. Co.	Pacolet, S. C.
Drayton Mills	Spartanburg, S. C.
Excelsior Mill	Union, S. C.
Monarch & Ottaray Plants	Union, S. C.
Abbeville Mills	Abbeville, S. C.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
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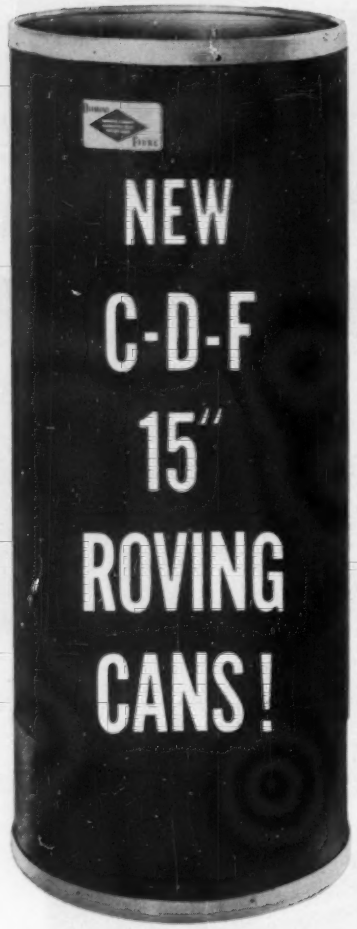


TOP QUALITY!
FAST DELIVERY!

Now you can get genuine Diamond Fibre Roving Cans in the popular 15" size faster and better! Production has been increased to meet all demands for this size. Stocks are big enough for prompt delivery of these superior cans.

Diamond Fibre seamless cans are strong, tough, smooth, with a long work life. Interior has a porcelain-like surface which will not crack, chip, or soften. Choice of steel top rim, rolled fibre top rim for running synthetics, or reinforced turned fibre rim.

Get in touch with C-D-F's Textile Headquarters at 834 Hayne Street, Spartanburg, So. Carolina (call Spartanburg 3-6397). Write for new folder and Receptacles Catalog showing all C-D-F roving cans, trucks, boxes, loom parts.

CDF
Continental-Diamond Fibre
CONTINENTAL-DIAMOND FIBRE COMPANY
NEWARK 11, DELAWARE

Personal NOTES
ABOUT MEN YOU KNOW

Bishopric, president of Spray (N. C.) Cotton Mills, was elected president, succeeding **G. P. Barnwell** of Bibb Mfg. Co., Macon, Ga. Others elected were: **J. G. H. Morris,** Adelaide Mills, Anniston, Ala., first vice-president; **M. Y. Cooper,** Harriet & Henderson (N. C.) Mills, second vice-president; with E. O. Fitzsimons continuing as executive vice-president, secretary and treasurer.

At Clarkesville (Ga.) Mill, division of United Merchants and Manufacturers, Inc., **Chester G. Hames** has been promoted to supervisor of weaving, succeeding **D. F. McGill,** recently transferred to Venezuela. Mr. Hames came to Clarkesville in 1951.

Yates Smith, recently retired, is succeeded as resident manager of the Florence plant, Forest City, N. C., of Cone Mills Corp. by **W. L. McBrayer.** ***P. C. Beatty** has been promoted to superintendent of Granite plant, Haw River, N. C., the position formerly held by **F. A. Whitney,** retired.

At the annual meeting of the Durene Association of America, **Freeman R. Harris,** vice-president in charge of sales at Standard-Coosa-Thatcher Co., Chattanooga, Tenn., was elected president for the forthcoming year. Newly elected vice-president is **Robert W. Stokes, Jr.,** president of Spinners Processing Co., Spindale, N. C.

Louis Fracher, who formerly served as public relations officer of Dan River Mills, was recently ordained as an Episcopal priest at the Church of the Epiphany, Danville, Va.

Edward M. Rand has been elected president of the Independent Association of Stocking Manufacturers, having previously served as executive secretary. Mr. Rand, one of the founders of the organization, succeeds **George D. McKinney,** resigned.

Elected to the board of directors of F. C. Huyck & Sons, Kenwood Mills, in Rensselaer, N. Y., is **Aims Chamberlain Coney.** Mr. Coney is vice-president of the Mellon National Bank and Trust Co. of Pittsburgh, Pa.

Felix R. Husler, formerly with Cheney Brothers, Manchester, Conn., is now in charge of all production costs, quality control, and development at Joan Plush Mills, Woonsocket, R. I., and Hickory, N. C.

George W. Daisy has succeeded **Robert Kennedy** as manager of The Linen Thread Co.'s Barbour Mill in Paterson, N. J. Mr. Kennedy has been transferred to an administrative post.

Succeeding **Charles W. Young,** who has retired as superintendent of Goodyear Tire & Rubber Co.'s Decatur

Mr. Wilder

(Ala.) Mills, is **William K. Wilder,** formerly assistant superintendent. Mr. Wilder has been with Goodyear since 1934.

At a recent meeting of the National Council for Textile Education, **Dr. Richard S. Cox,** Dean Emeritus of the Philadelphia Textile Institute, was elected to honorary membership. Those elected to active membership in the National Council were: **Dr. John H. Dillon,** director of research, Textile Research Institute, Princeton, N. J., and **Arthur Raymond Flege,** head of the department of textile engineering, Texas Tech, Lubbock.

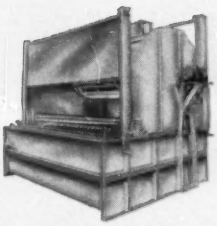
Elected president of the National Association of Woolen and Worsted Overseers was **George S. Pickett,** Martinsburg, W. Va. Mr. Pickett succeeds William H. Neumann, A. & M. Karagheusian, Inc., Roselle Park, N. J. Moving up as first vice-president for the ensuing year is **Edward L. Kelton,** Suncook-Dole, Inc., Suncook, N. H.; second vice-president is **Emil Tegtmeier,** Seymour (Ind.) Woolen Co.; and third vice-president is **Alfred O. Preuss,** Matson Mills, South Glastonbury, Conn.

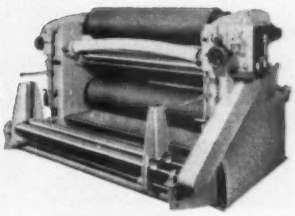
Succeeding T. B. Moore as superintendent of Oakboro Cotton Mill is **J. C. Walker.** He was formerly with Cannon Mills Co. in Salisbury, N. C.

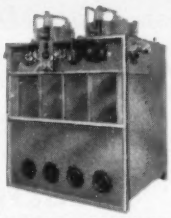
John D. Rollins, formerly with Dan River Mills, is now assistant to the vice-president at Palatine Dyeing Corp., St. Johnsville, N. Y.

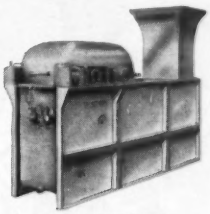
Harold Leitch has retired after 26 years with Pacific Mills, Lawrence, Mass. He will continue in the active capacity of administrative technical advisor. **Robert C. Wilkie,** who is the inventor of the Pacific converter, the

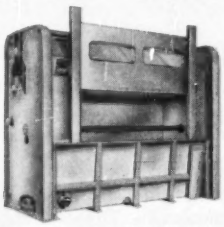
THE WIESNER-RAPP Co. Inc.
W-R
Buffalo, New York

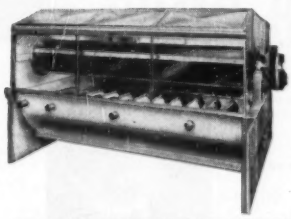

MODEL A DYE-BECK


3-ROLL PADDER, MODEL A-14


No. 450 MULTI-STAGE WASHER


ROPE SATURATOR


MODEL A-20 TIGHT STRAND WASHER


MODEL WR SLACK STRAND WASHER

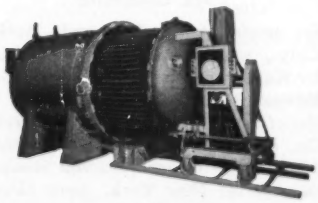
CONSULT WIESNER-RAPP FOR TEXTILE FINISHING MACHINERY

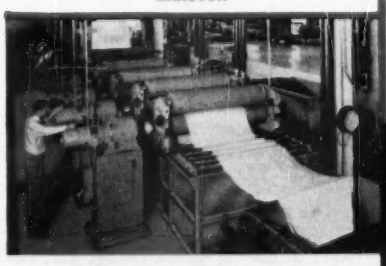
Close co-operation with the Textile and Chemical Industries has made Wiesner-Rapp specialists in the manufacture of stainless steel processing machinery and equipment. Wiesner-Rapp machines are functionally designed and generously proportioned, making them economical to operate and maintain. They find wide usage in continuous-volume production processes, although batch and laboratory type machines also are available. Throughout the years, mill operators have found they can rely on Wiesner-Rapp equipment because it is well-engineered and well made.

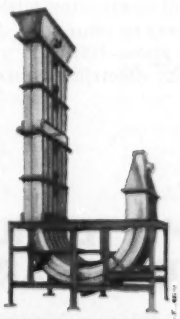
Other Wiesner-Rapp Products

LABORATORY BAROTORS • BLEACHING RANGES • PIECE DYE KETTLES SKEIN DYE MACHINES • PLAITERS • CARRIER REELS • OPEN WIDTH SATURATORS • SQUEEZE ROLL EXTRACTORS • OPEN WIDTH WASHERS • DRY CANS •

The W-R technical staff is ready to discuss your processing problems.


BAROTOR


OPEN-WIDTH TREATING MACHINE


BECCO TYPE J-BOX

DUPONT TYPE J-BOX

THE **WIESNER-RAPP** CO., INC.
1603 SENECA ST., BUFFALO 10, N. Y.
Manufacturers of Wet-Finishing and Dyeing Machinery

REPUTATION

Is Mighty Important To The Modern T-Formation Quarterback

In these modern football days, the T-Formation Quarterback handles the ball on every play. It's important that his teammates have confidence in his ball-handling and signal calling!

It's also important to choose the electrical contractor with the best reputation to handle electrical projects in your mill. J. M. Clayton Co. has the reputation and the know-how . . . you'll hear the name mentioned wherever quality electrical contracting is being discussed.

WE'VE SERVED THE TEXTILE FIELD FOR FORTY-NINE YEARS

J. M. CLAYTON CO.

CONTRACTING ELECTRICAL ENGINEERS

ATLANTA, GEORGIA

Personal NOTES ABOUT MEN YOU KNOW

Pacific evenness tester, and the Pacific raw stock, waste and staple cutter, succeeds Mr. Leitch as director of research.

Roanoke (Va.) Mills, Inc., has appointed **Earl J. Wentz, Jr.,** general manager. **John M. Tully** has been named sales manager of the same mill, a newly created position.

George W. Gibson was recently elected a vice-president of William Skinner & Sons. Mr. Gibson has been with the company since 1936.

Paul Koppe, formerly superintendent of the Cowan Mill, Lewiston, Maine, is now superintendent of Seymour (Indiana) Woolen Mills, succeeding H. K. Horning, resigned.

Star Woolen Co., Cohoes, N. Y., has elected **Richard Levi** president, succeeding Sidney Stein, deceased.

A. Phillip Goldsmith has been elected president of Julius Kayser & Co., succeeding **Theophil H. Mueller,** who is continuing as a consultant and a director. Mr. Goldsmith was former-

Mr. Goldsmith

ly president of Diamond Hosiery Corp., which was recently acquired by Kayser as an operating subsidiary. **Edward D. Mitchell,** chairman of the Beneficial Standard Life Insurance Co., and **John D. Revene,** vice-president of the Chase National Bank of the city of New York, were elected to the board of directors.

J. R. Royer was recently named general manager of Tenn-Rock Hosiery Co. and McMinville Textiles, Inc. He was formerly associated with McAllester Hosiery Mills of Chattanooga, Tenn., as secretary and general manager.

The Southern Utilization Research Branch of the U. S. Department of Agriculture in New Orleans, La., has appointed **August L. Miller** and **Ed-**

28,323 SOUTHERN STATES COMB BOXES NOW IN USE

IMPROVED CARDING. Typical installation of Southern States ball-bearing, permanently lubricated comb box.

During the past six years enough Southern States ball-bearing comb boxes have been sold to equip approximately 35% of all the cotton cards in the nation. Here is proof that mill after mill has found it highly profitable to replace old-style boxes with these modern self-contained units.

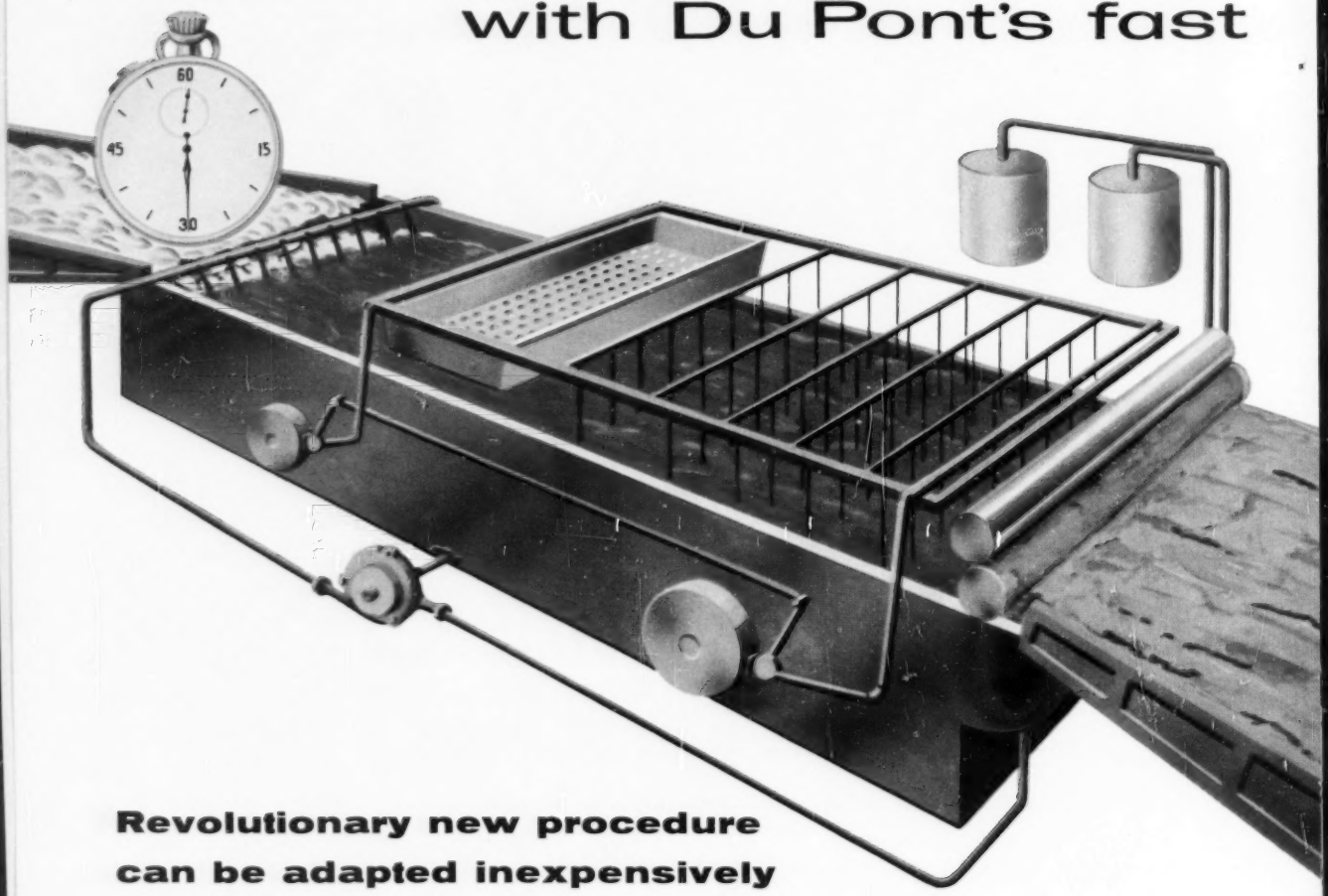
Overseers of carding, and those charged with keeping operating costs low, are quick to recognize the advantages of Southern States Comb Boxes. Steady, even strokes drive the comb with perfection. The boxes are permanently lubricated, sealed for life, never need oiling. They operate smoothly, quietly and never run hot. The result is greater all-round efficiency, less maintenance, lower operating costs.

Now it is no longer necessary for mills to put up with hot, leaky, vibrating comb boxes that chatter and rattle. At little cost and with a minimum of trouble they can be replaced with precision built, ball-bearing Southern States Comb Boxes. Units are furnished complete with an adapter base for mounting on any make of cotton card. Each base is double tapped to permit rapid mounting on either right or left hand cards.

Let us show you with facts and figures how it has paid hundreds of mills to install Southern States Comb Boxes; how little it will cost you to change over and how much you will save in just one year. Drop us a line and our representative will be glad to call at your convenience.

SOUTHERN STATES EQUIPMENT CORP.
HAMPTON, GEORGIA

Now...continuous dyeing of with Du Pont's fast



Revolutionary new procedure can be adapted inexpensively —greatly reduces dyeing costs

Working with leading rug manufacturers, Du Pont dyeing specialists have perfected a technique that permits the *continuous* dyeing of raw wool in just 90 seconds! It's made possible by Du Pont's new "CAPRACYL" dyes that go to the fiber quickly and evenly . . . give fastness equal to the batch method.

Only a few hundred dollars' worth of equipment is required to convert to the new dyeing procedure. By converting to the continuous method with "CAPRACYL" colors, dyeing costs have been cut in half!

In the new process, the last bowl on the scouring train is made into a dye bath – only two stainless steel feed tanks and two siphons need to be added. The wool comes out ready to be dried and spun.

In addition to cutting handling and steam costs and saving valuable time, "CAPRACYL" dyes do away with long boiling which tends to make wool brittle. The essentially neutral-dyeing, metalized "CAPRACYL" line can produce the most popular rug, home-furnishing and wearing-apparel colors.

Du Pont technical representatives will be glad to discuss the possibility of adapting the continuous process to your stock dyeing. For further information, write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Del.

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DU PONT
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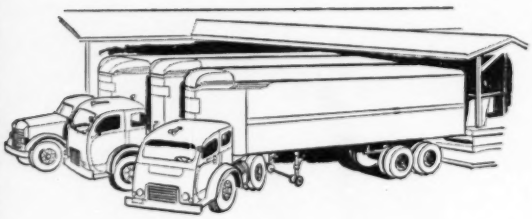
Du Pont Dyes

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

wool raw stock a reality

new "CAPRACYL"* colors

Roy Fruehauf, President, Fruehauf Trailer Company



"Business Publications Are Vitally Important To Me..."

says Mr. Fruehauf. "Frequently I find facts and ideas in business publications that help me to make important decisions. We know our customers and prospective customers read *their* business magazines, too. We carry substantial advertising schedules in several different groups of business periodicals."

It is good thinking to judge an advertising medium by the value its editorial pages deliver to regular readers. Business publications provide a direct sales route for any product or service of benefit to business or professional men.

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The national association of publishers of 171 technical, professional, scientific, industrial, merchandising and marketing magazines, having a combined circulation of 4,049,550... audited by either the Audit Bureau of Circulations or Business Publications Audit of Circulation, Inc.... serving and promoting the Business Press of America... bringing thousands of pages of specialized know-how and advertising to the men who make decisions in the businesses, industries, sciences and professions... pin-pointing your audience in the market of your choice. Write for list of NBP publications and the latest "Here's How" booklet, "How Well Will We Have to Sell Tomorrow?" by Ralston B. Reid, Advertising & Sales Promotion Manager, Apparatus Sales Division, General Electric Company, Schenectady, N.Y.

Automatic Winders for Rewound Filling

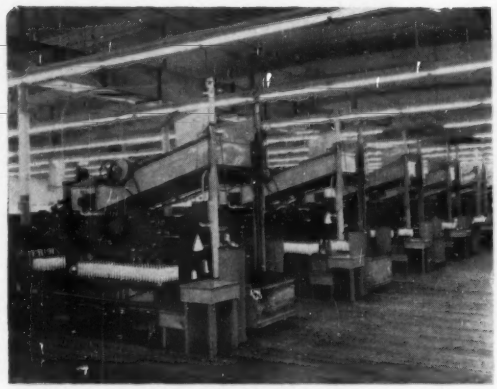
to take advantage of large package spinning, more yarn on filling bobbins, more uniform bunches, better weaving bobbins, and inspected yarn, all of which go to make a better fabric.

Abbott Traveling Spindle Package Winders

Automatic Cone or Tube Winders for warping, dyeing, twisting, quilling, sales.

Can be equipped with any one of a variety of slub catchers and inspection devices.

Production up to 1000 bobbins per hour per operator.



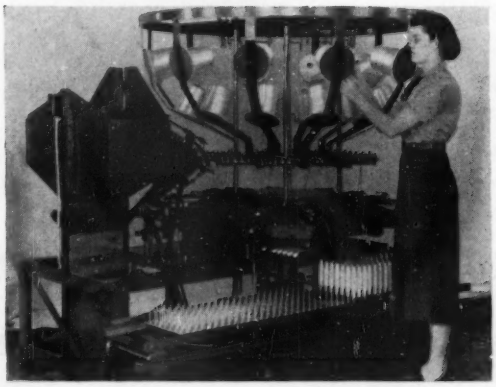
Abbott Traveling Spindle Automatic Quillers

For winding cotton, spun rayon, worsted, etc., equipped to doff automatically into baskets, or stack automatically into boxes.

For rewinding woolen yarn from mule and ring frames.

For winding filament rayon and nylon, etc., with automatic pinboard attachment or wide belt inspection conveyor.

Production up to 2000 bobbins per hour per operator.



Abbott Fully Automatic Radial Quiller

For smaller lots and widely diversified mills.

For winding cotton, spun rayon, filament rayon, worsted, wool, etc.

Can be arranged to deliver bobbins to Pinboard Attachment, or into baskets, or into wide belt conveyor.

One operator can run several machines producing up to 2000 bobbins per hour per operator.

Can be equipped with measured yardage device for two-shuttle looms.

ABBOTT MACHINE CO., INC.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.

INTRODU

- **opening up new potentials in product improvement**
- **presenting new opportunities in product development**

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- NEW LUSTER
- NEW STRENGTH
- NEW DYEABILITY
- NEW ABRASION CHARACTERISTICS
- NEW CRIMP
- NEW RESILIENCY WITH LESS CRUSHABILITY

...AND NEW ECONOMY FOR YOU

Nylon Staple

To creative industrialists in every manufacturing field, IRC presents a NEW Nylon Staple, developed to remove limitations on product design and improvement.

Most important... you can expect the same uniformity and performance from the NEW Nylon Staple by IRC that a long list of industries have experienced with IRC rayon yarns. For, as in the production of rayon, Industrial's new, modern nylon plant will operate on the conviction that IRC can always produce a better fiber for every trade.

IRC

Industrial Rayon Corporation

Sales Offices: 500 Fifth Avenue, New York 36, N. Y.
627 Guilford Bldg., Greensboro, N. C.

BORN 30 YEARS TOO SOON FOR GAS

Gone are the days when somebody had to sweat over a hot coal-shovel in the basement of your mill—at least they should be gone!

Gas is the answer to a lot of problems: The fuel itself costs less than coal; there is no coal or ash handling and no flues to keep clean.

Labor costs are materially reduced and there is also less maintenance on equipment and fewer shut-downs for repairs.

McBurney installs and services burners, including gas, oil, or combination gas-oil burners. Your present firing systems can be retained in standby capacity.

CHECK THESE FINE McBURNEY LINES: Copes-Vulcan Boiler Controls, Copes Feedwater Regulators, Vulcan Soot Blowers, McBurney Underfeed Coal Stokers, Aqua Electric Scale Control, Gas & Oil Burning Equipment.

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STOKER & EQUIPMENT CO.
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Phone ELgin 4436

Personal NOTES ABOUT MEN YOU KNOW

gar L. Belsom, Jr., mechanical engineers, and **Roger S. Brown,** cotton technologist, to the staff. They will conduct investigations to develop new and improved equipment and instruments to improve the quality and lower the processing costs of cotton fabrics. * * * **William J. Martin** has joined the Extension Service, U. S. Department of Agriculture, as a cotton utilization specialist. Mr. Martin has been with the Agricultural Marketing Service of USDA doing research on market outlets for cotton.

Mr. Martin

Charles C. Swett, formerly vice-president, is now president of Wilton (Maine) Mills, succeeding Earl B. Fose, retired. Mr. Fose will remain on the company's board of directors.

Bay Mills, Ltd., formerly known as Fine Silk Ltd. of Midland, Ontario, has completely reorganized its administrative set-up. **Steven Cerny,** formerly in charge of industrial fabric sales for Fine Silk, is general manager; **Morie Whitcher** is plant superintendent; **Syd Nicholls** is in charge of industrial sales; and **Jack Oser** is sales manager of the textile fabrics division.

New superintendent of the North Star Woolen Mills, Lima, Ohio, is **Arthur Shook.** He was formerly superintendent of the woolen division of Cleveland (Ohio) Worsted Mills.

Former general manager for Alexander Smith, Inc., **Fred W. Klein** has joined Fieldcrest Mills, Inc., as assistant manager of the Karastan Rug Mill. * * * **Robert A. Harris** has been elected assistant treasurer of Fieldcrest. He joined the organization in 1946 and since that time has served as head of the cost department, staff assistant in the management offices, assistant manager of the Blanket mill, and assistant comptroller.

Newly appointed general manager of the Williamston (S. C.) Cotton Mills, Inc. is **Hugh Wofford.** Prior to joining Williamston, Mr. Wofford served as superintendent of the Textron print cloth plant.

John H. Callen has been elected vice-president of Peerless Woolen Mills, Rossville, Ga., with headquarters in New York City.

Clarence A. Wimpfheimer was recently elected chairman of the board of A. Wimpfheimer & Bros., Inc., Stonington, Conn., operators of American Velvet Co. **Jacques D. Wimpfheimer,** his son, has been elected president.

Newly appointed superintendent of production and maintenance of the Atlantic Cotton Mill, Macon, Ga., is **B. C. Hunnicutt.** He was formerly associated with Crystal Springs Bleachery.

Frederick Thompson, formerly with Arlington Mills and Marriner Combing Co., is now with Francis Willey & Co., as liason between their Boston office and the wool combing plants in Norton and Bellingham, Mass.

New directors elected to the board of West Point (Ga.) Manufacturing Co., are: **T. Scott Avary,** vice-president of West Point, and **Willfred W. Lufkin, Jr.,** president of Wellington Sears Co., selling house for West Point and its associated companies. Mr. Avary, who joined West Point in 1933, was also elected a director of Lanett Bleachery & Dye Works.

Obituaries

James T. Andrews, 34, western manager, W. R. C. Smith Publishing Co. and business representative for TEXTILE INDUSTRIES and "Southern Power and Industry."

Gen. Butler Ames, 83, vice-president and director of Ames Textile Corp.

Arthur H. Alterman, 62, manufacturer of knitted Jacquard cloth.

Clarence J. Brown, 57, general superintendent of Blue Ridge Textile Co.

Frank T. Byrne, 74, president of Thomas F. Byrne Corp.

Frank H. Cooper, 58, assistant superintendent of Fulton Bag and Cotton Mills.

G. H. Cornelson, 56, vice-president

TENNESSEE EASTMAN COMPANY
DIVISION OF EASTMAN KODAK COMPANY
KINGSPORT, TENNESSEE

ENKA RAYON

Burlington Mills
"Woven into the Life of America"

Why do these leading textile mills specify HAYES LIGHTMETAL BEAMS?

Avisco®

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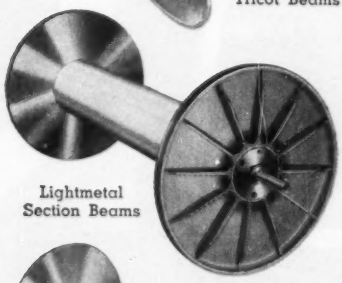
HOLEPROOF

Celanese® ACETATE

3M COMPANY

Lightmetal Loom Beams

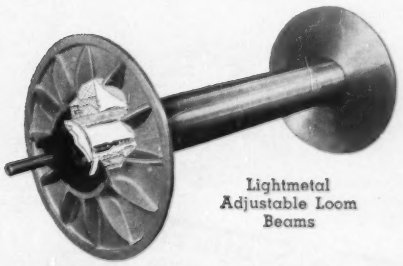
Lightmetal Tricot Beams



Lightmetal Section Beams

These textile mills choose Hayes Lightmetal textile beams because of their true-running, perfect balance, smooth surface and minimum maintenance requirements. For your answer to smooth, high-speed production, better selvages and a minimum of rejects, specify Hayes Lightmetal Beams. Write for complete information on specifications, costs and deliveries.

Lightmetal Replacement Loom Beam Barrels



Lightmetal Adjustable Loom Beams

HAYES

the world's largest producer of light metal beams

HAYES INDUSTRIES, INC. Jackson, Michigan

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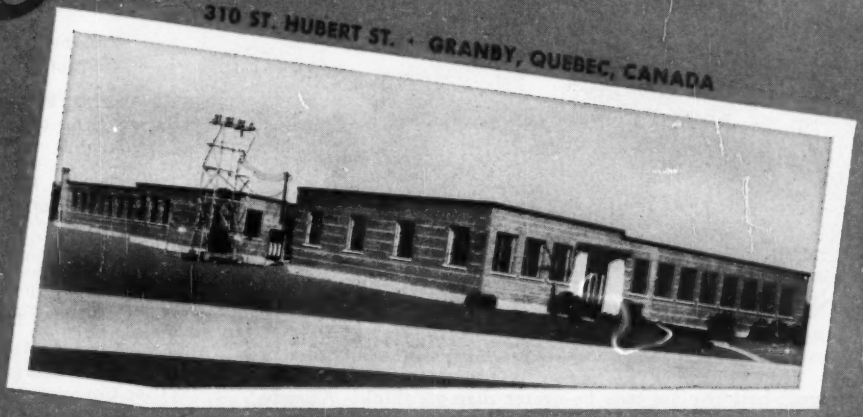
EQUIPMENT

310 ST. HUBERT ST. · GRANBY, QUEBEC, CANADA



Southern

QUALITY PRODUCTS

. . . Over half a century in developing and producing the equipment you need to maintain the standards required today.

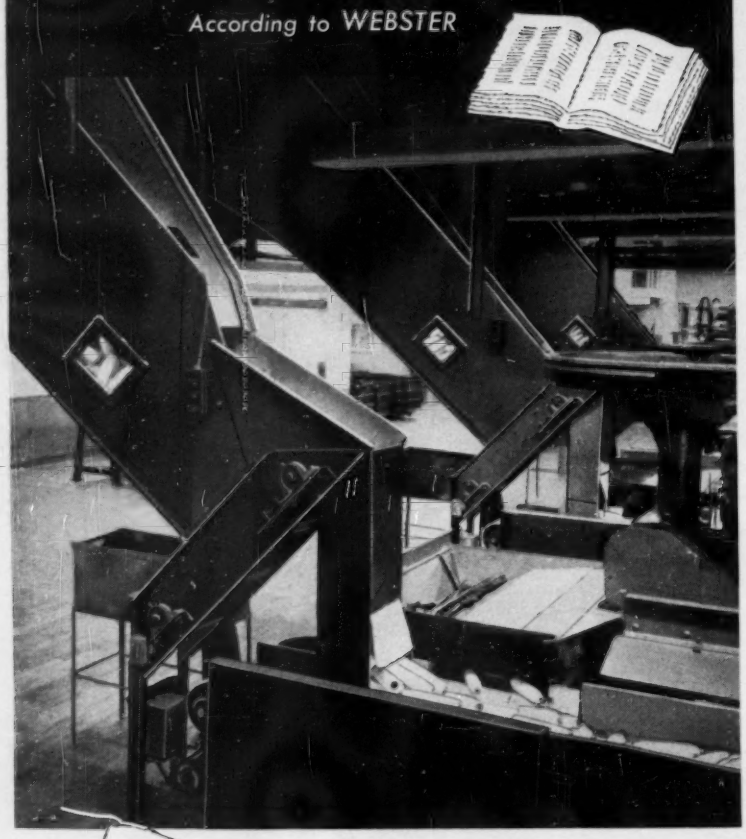
SERVICE FACILITIES

. . . Over half a century in developing proper service by locating plants, equipment, and stocking them all for the convenience of the Textile Field.

Auto-ma-tion

(SELF-ACTING) (PROCESS)

According to WEBSTER



Spoolers served by Logan Conveyors in Southern mill. Bobbins in tubs are fed to storage bins by overhead live roller conveyor. Automatic belt feeders discharge bobbins from bins to series of belt conveyors encircling each spooler. System links spoolers to spinning room two floors above — automatically

The push-button plant may be nearer than we think! Already, Logan has installed literally miles of conveyor where the flow of material is guided by remote control. And automatic feed to machines from conveyor — and back to conveyor again — is no novelty in Logan-engineered installations.

As this modern conception of plant operation grows and expands, one thing is sure — Logan engineering will be found in the vanguard of the movement. Every conveyor job is, in reality, a step toward automation.

What are your material handling needs? Write today for literature or for the nearest Logan engineer to call.

LOGAN CO., 206 CABEL ST., LOUISVILLE, KY.

Logan Conveyors

Personal NOTES ABOUT MEN YOU KNOW

of Clinton and Lydia Cotton Mills.

Charles J. Cramsey, 87, retired founder of Kaltenbach & Stevens silk mill.

N. B. Davis, 78, retired superintendent of the Armstrong Mill, Gastonia Combed Yarn Corp.

Otis M. Dunham, 74, retired assistant treasurer of Wamsutta Mills.

W. P. Fickett, 67, retired president of the Textile Fabrics Association.

Charles L. Glass, 41, general superintendent of Rockwood (Tenn.) Hosiery Mill.

R. W. Jennings, 80, superintendent of Lanett Mill, West Point Manufacturing Co. since 1920.

William W. Johl, 51, president of William Johl Manufacturing Co.

Charles M. Kitzmiller, Herr Manufacturing Co. representative.

Will H. May, 79, pioneer hosiery manufacturer.

Archibald Meikle, retired superintendent of Poe Mill, Greenville, S. C.

Dr. R. H. Patch, 66, vice-president and a member of the board of directors of E. F. Houghton & Co.

Charles Reid, vice-president and secretary of Washington Mills Company.

Grahame Wood, 80, president of Selma Mills, Inc., and Millville Manufacturing Co.

Edward Olin Smith, 63, vice-president in charge of export operations of Universal Winding Co.

William Southern, 67, Saco-Lowell Machine Co.

Spencer W. Sparks, 56, cotton manufacturers' broker.

Sidney J. Stein, 64, president of Star Woolen Co.

Frank Thompson, engineer with Hudson Hosiery Mill.

E. R. Titelman, 30, vice-president of Puritan Sportswear Corp.

Mrs. Nell F. Winget, 68, founder and chairman of the board of Kickernick, Inc.

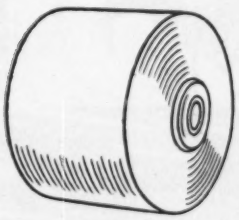
L. L. Wren, 85, president of Siler City Mills, Inc.

BARBER COLMAN

There is a difference in the warps — and in the way they weave

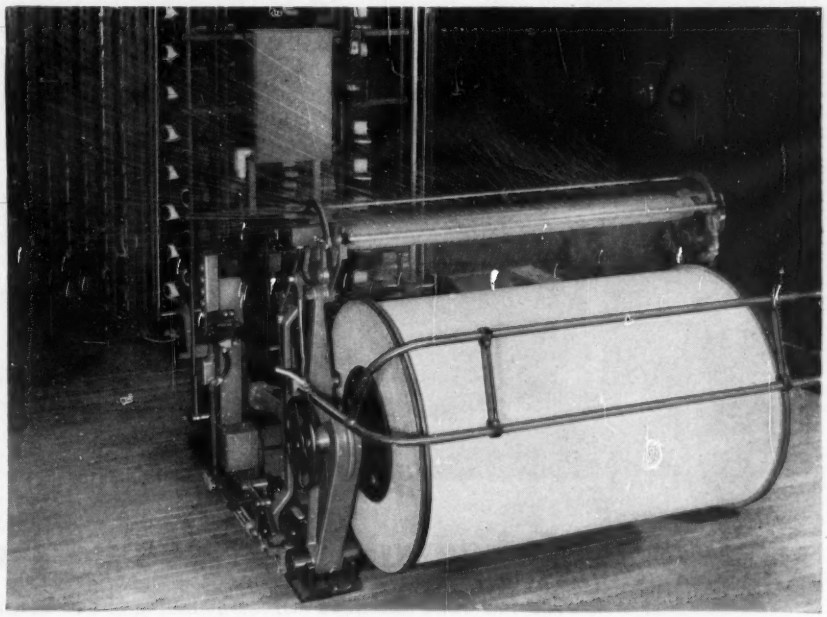
SUPER-SPEED

WARPER *and* CREEL FOR 40"-head BEAMS



LARGE PACKAGES HAVE ADVANTAGES IN THE STEPS THAT FOLLOW SPINNING

For example, with 24s yarn, a 12" bobbin with 3" ring will hold 15,000 yards, or *three times* as much as the standard bobbin. The new Type "D" Barber-Colman cheese holds 6½ lbs., or 120,000 yards, which is 2½ times as much as the standard Type "C" cheese. When these cheeses are wound onto slasher beams, the advantages vary with the size of the beam as follows: large cheeses provide 5 28"-head beams per cheese compared with 2 beams for standard cheeses; for 36"-head beams, the comparison is 3 to 1; and for 40"-head, also 3 to 1. In the slashing, assuming 1200 yards per loom beam, 28"-head beams provide 20 loom beams per set, 36"-head beams provide 33, and 40"-head beams 39. This reduces slasher creelings per 120-hour week to 5.68, 3.67, and 3.16 respectively. *The increase in loom beams per set, and the reduction in creelings per week, can provide substantial cost reductions in many mills.* If the large cheeses are used for twisting, similar advantages are gained, resulting in the winding of 2½ times as many twister bobbins per creeling.



The development of the large bobbin has led to the development of larger spooler packages which, in turn, has called for the development of a matching warper and creel. The new Barber-Colman Type "DW" Warper shown above will wind slasher beams as large as 40" head. It has all the features of the familiar Type "VW", plus several new ones such as a pivoted comb support which moves the comb forward as the beam fills. The driving drum, clutch, brake, and motor — all of which are larger and more rugged to handle the heavier loads — are now arranged back of, rather than beneath, the beam. The creel shown is not the new Type "DC" Creel but is the standard Type "VC", as the new Warper can be used with either the large *or* the standard package. *For further details, please write for descriptive literature, or ask your Barber-Colman representative.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

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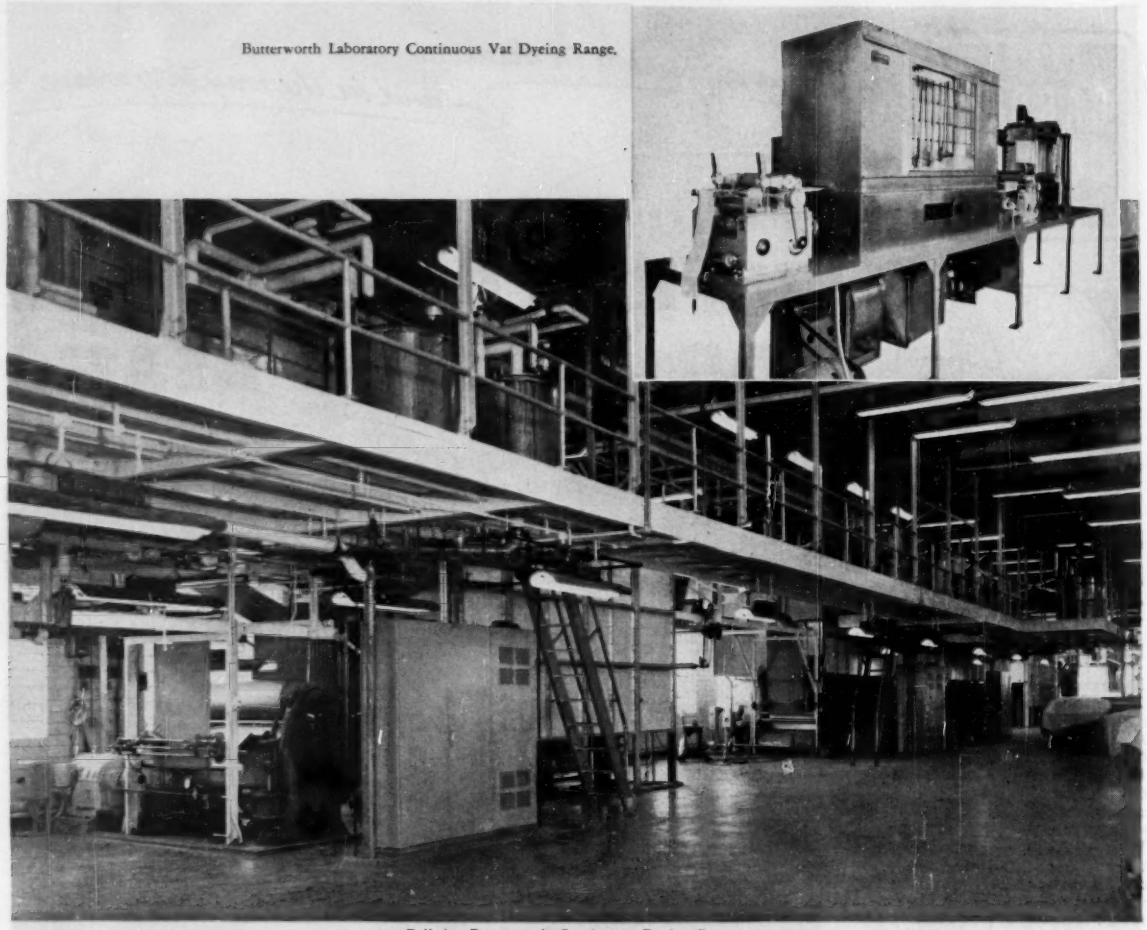
Butterworth Laboratory Continuous Vat Dyeing Range.



Full-size Butterworth Continuous Dyeing Range.

Teamwork brought this dyeing range to life!

Butterworth teamwork has been described as "combining the request of the finisher and the demands of the chemist and colorist with the limitations of present day mechanical engineering". So far we've been successful in not letting those "limitations" get too much in the way.

For instance, take the Laboratory Continuous Vat Dyeing Range shown above... Butterworth engineers developed this equipment in cooperation with the customer's engineers and chemists. This miniature range was used to prove all principles of the full-size installation — and did it without spending a lot of money. From this laboratory range came continuous vat dyeing as we know it today — as shown in the full-size installation above.

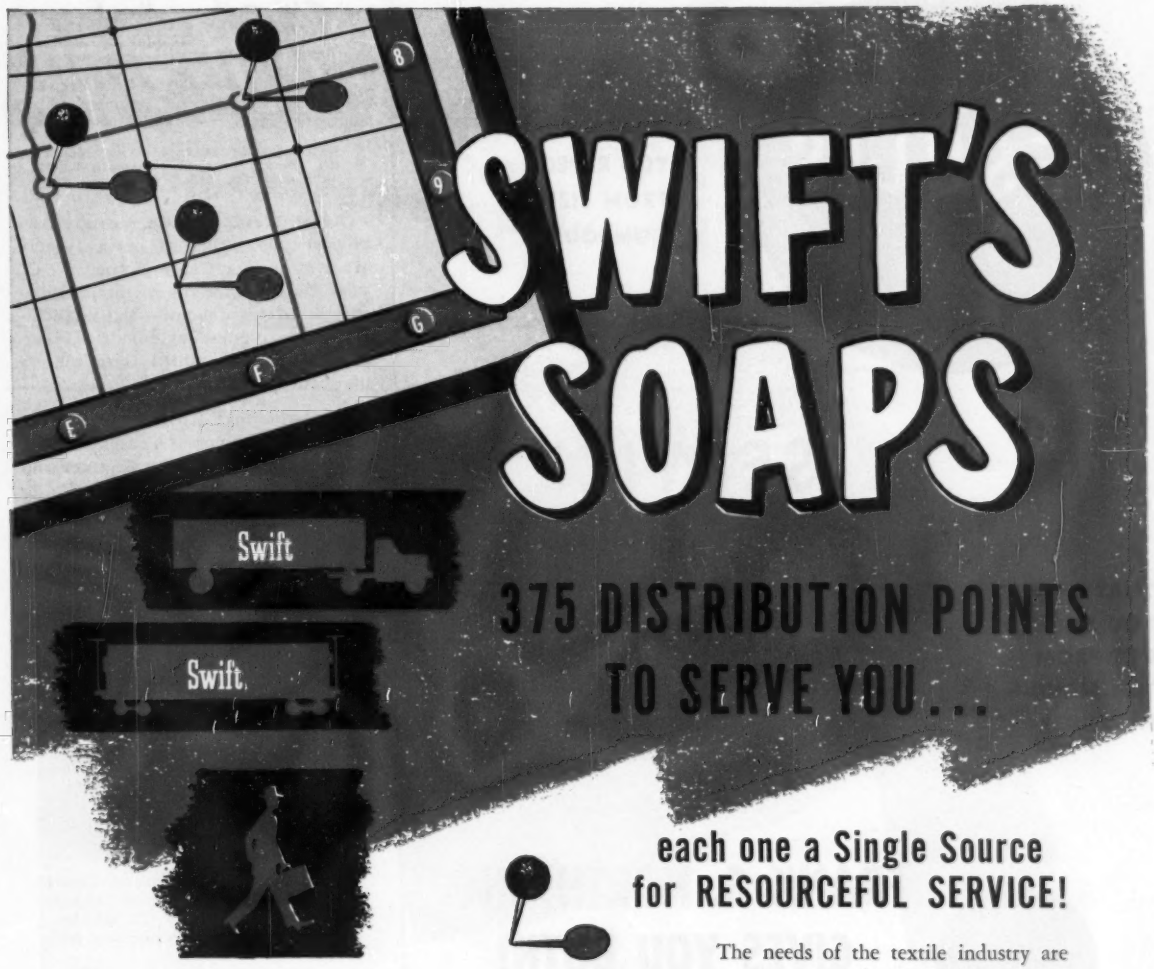
Thinking of new machines? Making long range plans? Butterworth engineers are at your service. We'd be glad to team up with you — to help you improve your competitive position. Whether it's laboratory equipment, a full-size range, or a spare part you need in a hurry — a letter, wire or phone call will put a Butterworth engineer on your team.

H. W. BUTTERWORTH & SONS CO.
Bethayres, Pennsylvania

1211 Johnston Building, Charlotte, North Carolina
187 Westminster Street, Providence, Rhode Island

Machines for Bleaching, Boiling-Out, Dyeing, Mercerizing, Finishing & Embossing : : Pot Spinning Machines for Synthetic Fibers : : Calender Rolls : : Tenter Chains

BUTTERWORTH



each one a Single Source for RESOURCEFUL SERVICE!

The needs of the textile industry are *best* served *by* service. That's why your Swift's Soap needs are attended to through a dependable network of 375 sales and distribution points located throughout the U. S. and Canada. Through constant, on-the-spot service to the varied needs of our many customers, Swift & Company has built a background of experience with *your* soap problems that draws upon 40 years of supplying to the textile industry. Backed by *practical* research, occasioned by day to day dyeing, fulling and scouring needs, your Swift's man is resourceful, dependable . . . a *single* nearby source for a versatile line of soap and detergent products for your every requirement. The list at left represents but a few of the many textile soap products available on immediate delivery — look it over, write for details and remember . . .

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

- Vertex Flakes
- 557 Flakes
- White Ribbon Chips
- Wool Flakes
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- Solar Neutral Synthetic
- T-25 Soap Flakes
- Gold Medal Flakes
- Solar Liquid Synthetic (Amine Condensate)

Call Swift for SOAPS

Another of Swift's Products for Industry

SWIFT & COMPANY
Soap Department
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RESULTS

THAT'S WHAT YOU EXPECT FROM SIZING COMPOUND

SERVICE and EXPERIENCE

THAT'S WHAT YOU SHOULD GET FROM THE MANUFACTURER

FRANK G. NORTH, INC. GIVES YOU BOTH!

You *must* have good results from your sizing compound . . . the entire weaving operation depends on it! And you can depend on Frank G. North, Inc. for size that *produces* good results.

Frank G. North, Inc. is one of the largest manufacturers of sizing compounds, gums, waxes and other kindred products for weaving yarns in the nation. Our men can assist you in technical and practical matters relating to size. They have the experience and are anxious to be of service. Call on them today!

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What the TEXTILE MILLS are doing

Note: Textile manufacturing plants are invited to send information for publication in this column. — The Editors.

Athol (Mass.) Mfg. Co. recently purchased two buildings on a 10-acre tract at former Camp Butner, N. C., near Durham, for the manufacture of plastic coated fabrics for the furniture and automobile industries. Construction of a third building is planned.

The American-Korean Foundation was recently given six cases of varicolored knitting yarn by **Gantner and Mattern Co.**, San Francisco, Calif.,

Young Han Choo, Korean Consul General, San Francisco, accepts the yarn from John O. Gantner, Jr., president of Gantner and Mattern.

enough for 10,000 pairs of baby booties, or 3,500 sweaters for Korean orphans. The contribution helps to swell the value of relief supplies donated to the foundation by American industry during its "Aid to Korea" campaign to nearly $6,000,000.

A $750,000 modernization is planned by **Amazon Cotton Mills**, Thomasville, N. C. Purchase of 50 new spinning frames is under consideration; also roving frames, drawing frames, combers, cards, a picker, and a line of opening machinery.

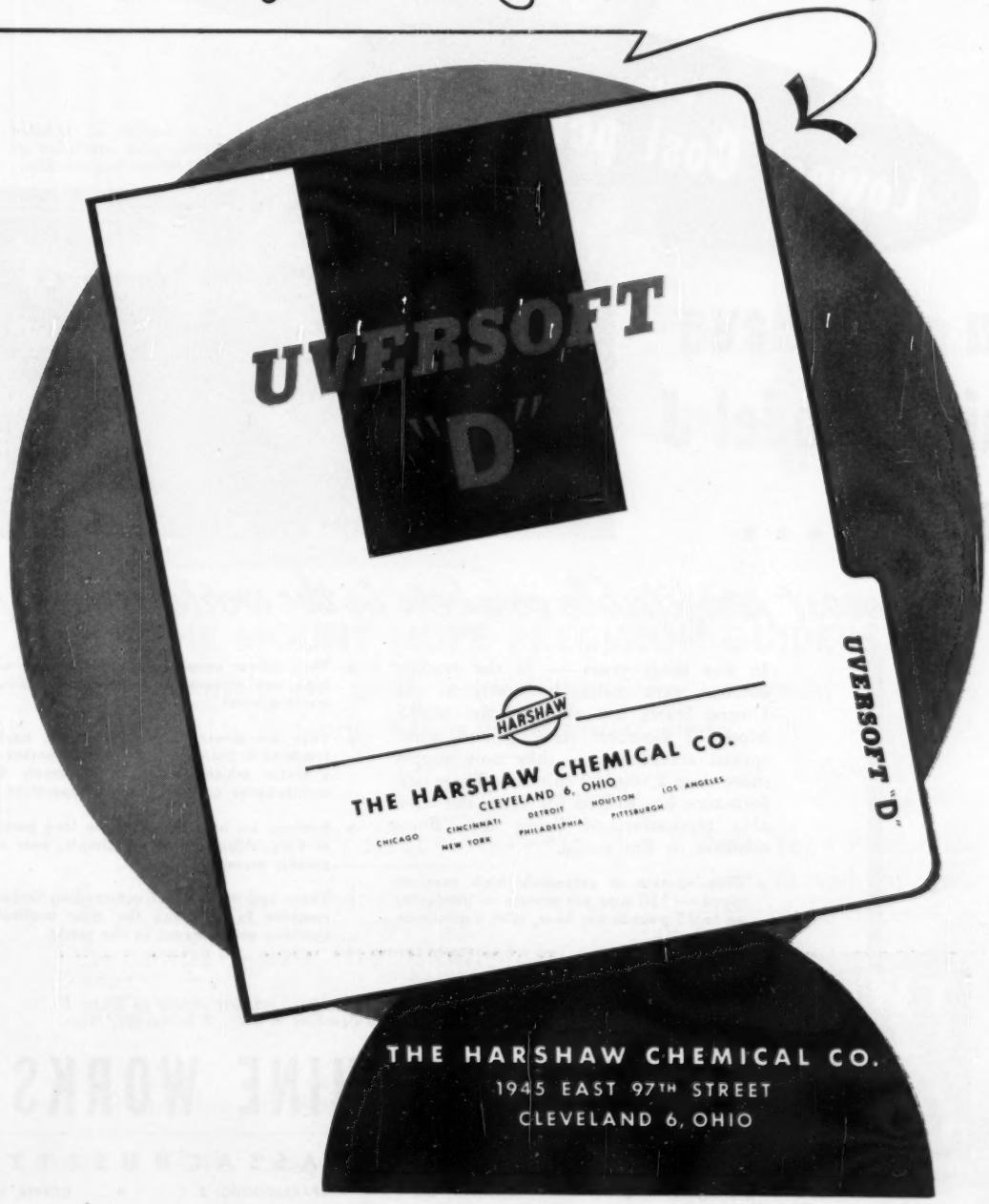
The Bella Co., a hosiery dyeing and finishing firm, has returned to its original location, Reading, Pa., and resumed operations, after several years in Mount Pleasant, Tenn. Entirely new equipment has been installed in the former Gold Seal Hosiery Mills.

Bereen Knitwear has moved its operation from Hickory, N. C., to Whitmire, S. C., where a new 30,000 sq ft building costing $100,000 and

UVERSOFT "D"

is an extremely powerful softening agent

Send for this folder containing complete technical information



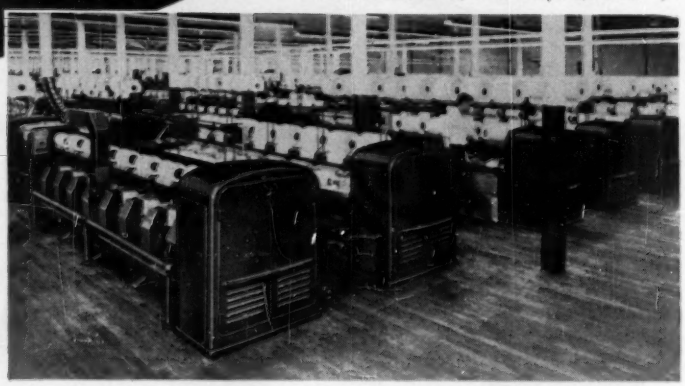
Attention all comber users . . .

for **Highest Production**

for **Unsurpassed Quality**

with **Lowest Cost per Pound**

A large installation of Whitin Model J Combers in operation at Wamsutta Mills, New Bedford, Mass.



You must have Whitin Model J Combers . . .

The most profitable combers in the world for you!

In five short years — in the leading combed yarn mills, not only in the United States but all over the world, Model J Combers have gained widespread acceptance — they now supply more than 2,500,000 spindles. Their performance has earned for them the enviable reputation of being the "finest combers in the world."

- **They operate at extremely high constant speed — 150 nips per minute — producing up to 35 pounds per hour, with a minimum of vibration.**
- **They deliver unsurpassed sliver quality with high nep removal and extremely accurate waste control.**
- **They are structurally very simple, having fewer parts than any competitive comber — a factor which results in extremely low maintenance cost and ease of operation.**
- **Settings are held for unusually long periods of time. Adjustments are simple, easy and quickly made.**
- **These and many other outstanding features combine to give you the most profitable combing performance in the world.**

Write today for complete details to Dept. F Whitin Machine Works, Whitinsville, Mass.

Whitin MACHINE WORKS

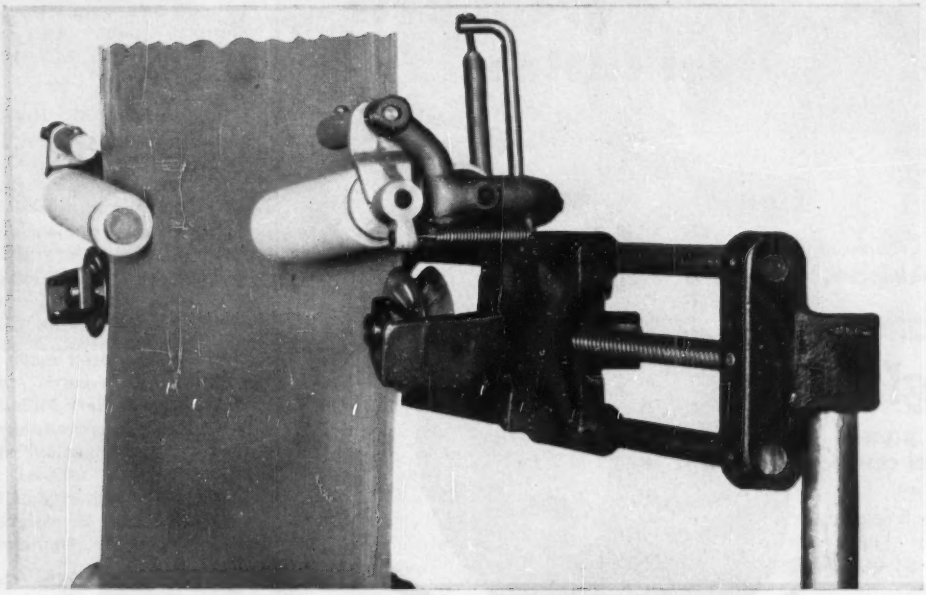
WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Mount Hope SYSTEM

INCORPORATES

"Precision Guiders" to help you beat competition!



THE MOUNT HOPE PRECISION GUIDERS

positively and gently control the lateral movement of fabric within the narrowest limits.

For Maximum Production — Lower Cost — Minimum Seconds — use the Complete MOUNT HOPE SYSTEM

Originator of Modern Expanders

Leader in Cloth, Paper and Plastic Handling

Write for a Production Cost Survey of your plant at no obligation.

MOUNT HOPE MACHINERY COMPANY

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This NEW CONSTRUCTION Revolutionizes Swivel Casters!

LOCK-WELD

Built Stronger · Last Longer

Fairbanks'® great new swivel caster

LOCK-WELD CONSTRUCTION (patented) MEANS

NO KING PIN — completely eliminates the greatest single cause of caster failure: the king pin.

EASIER SWIVELING — double ball race held in rigid alignment. Tremendous increase in swiveling efficiency.

SUPER STRENGTH — top plate and retaining plate are projection welded into an integral unit. No wear between rigid and moving parts. Patented leg design prevents bending and buckling...disperses load over larger area.

COINED RACEWAYS • HARDENED BALL BEARINGS • PRESSURE LUBRICATION

Complete information on LOCK-WELD casters is contained in Bulletin 23-33, free on request.

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VALVES • DART & PIC UNIONS • TRUCKS • CASTERS

What the TEXTILE MILLS are doing

financed by sale of stock to the public, will be occupied. Jack Bereen continues as manager. Other partners are Jack Clark and Arthur Levy.

Now in production in Quitman, Ga., is **Brooks Country Hosiery Mill.** The new firm, a partnership consisting of R. B. Ives, Jr., Bill Scroggins, and B. B. Ives, Sr., has leased the building and equipment of the former Quitman Hosiery Mill from Bryan Full Fashioned Mills, Inc., Chattanooga, Tenn.

Burlington Mills Hosiery Co. of Canada, Ltd., Lachine, Que., now producing 400-needle, 15-denier micro-film nylon mesh stockings, is installing equipment to make plain stitch seamless 400-needle, 15-denier hosiery. Production will begin early this year. Later it is expected that 474-needle seamless hose of 10 or 12 denier yarn will be manufactured.

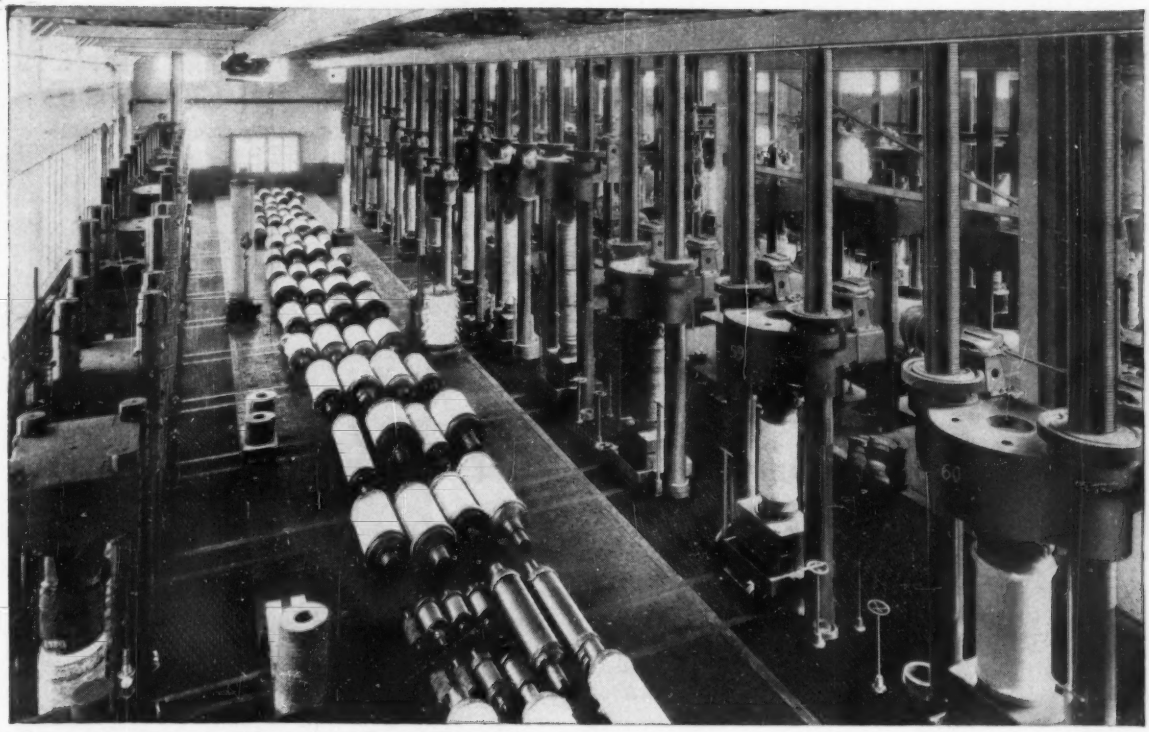
Plans have been made for an expansion in research facilities at **Chadbourn Hosiery Mills, Inc.,** Charlotte, N. C., in order to develop other uses for its "Chadolon" stretch yarn which is now utilized for ladies' hosiery. The majority of the laboratory work will be assigned to **Gaybourn Mills, Inc.,** Gainesville, Ga.

At the **Clarkesville (Ga.) Mill** of United Merchants and Manufacturers six radial quillers of 12 spindles each have been installed, increasing the versatility of the operation.

The dynel - saran fire - resistant drapery fabric made by the Lumite Division of **Chicopee Mfg. Corp.** has been approved by the Underwriters Laboratories, Inc., and the New York City Board of Standards and Appeals. This means that the authorities regard the material as flame-proof and safe for use in places of public assembly.

Copeland Fabrics, Inc.: Copeland Converting and Finishing Co.; and Copeland Fowler Industries, Inc., all of Burlington, N. C., have been equipped with improved machinery at a cost of $500,000. The machinery will streamline production and lower costs at the three plants, which produce cloth from synthetic yarns.

Burlington Mills Corp. has completed two warehouse additions at its Piedmont Heights division. The expansion, costing $237,000, provides



Looking in on Perkins Calender Roll Shop, Largest in the World

In this modern, completely equipped press roll shop, Perkins famous Calender Rolls of all sizes and combinations and fillings are in process . . . under heavy pressure for a predetermined period of time . . . to produce Perkins Calender Rolls to meet exactly the requirements of the paper and textile industries.

B. F. PERKINS & SON, Inc.

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***Southern Sales Office:* 1609 Liberty Life Building, Charlotte, North Carolina**

FOSTER-MUSCHAMP

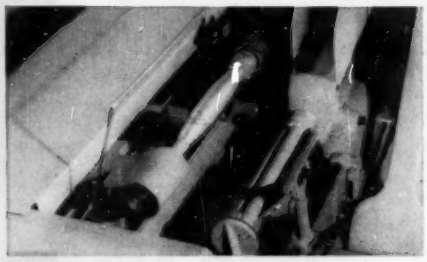
Automatic Filling Winder

(MADE IN WESTFIELD, MASS., U.S.A.)

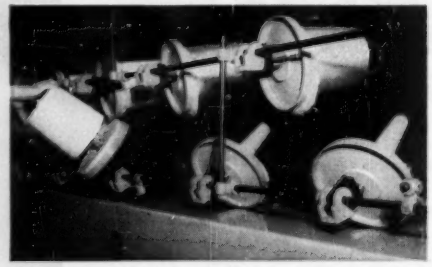
All 8 Points of Superiority You Want

- **SUPERIOR WINDING.** Produces practically perfect bobbins because of close delivery thread guide, shock-proof start, simple and effective layer locking device and feelerless guide.
- **SIMPLICITY OF DESIGN.** Spindle box has only 2 sets of gears. Traverse cam, outside of spindle box, requires no lubrication. Spindles independently controlled, so different size yarns can be run on each spindle and so other spindles will continue to produce if one is stopped.
- **LOW MAINTENANCE.** Spindles are not geared, have no clutch, run in ball bearings and are driven in groups of 8 by motor with overload capacity. Low cam speed (in spite of 15,000 r.p.m. spindle speed) promotes long life.
- **LOWEST OPERATING COST.** As low as ¼c per lb. of yarn quilled, when magazine creel carries 4 lb. cones and machine is equipped with central bobbin-hopper and automatic pin-boarding, or filling box stacker.
- **LOW INVESTMENT.** About $100.00 per loom serviced, when machine is equipped for fully automatic operation.
- **FLEXIBILITY.** Different counts or colors can be run on same machine at same time. Will wind all counts and types of yarn.
- **FULLY AUTOMATIC OPERATION.** When machine is equipped with all automatic attachments, only duties of operator are to creel in supply and pick up broken ends.
- **EXPERIENCED AND RELIABLE MANUFACTURER.** The Model 66 is made entirely by us in Westfield, Mass. We are proud of our 64 years of experience in designing and building winders and our reputation for reliability and integrity.

FOSTER-MUSCHAMP MODEL 66 BOBBINS



EMPTY BOBBIN READY TO MOVE INTO WINDING POSITION AND FEELERLESS BUILD



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Buy FOSTER MUSCHAMP Automatic Filling Winders and get ALL of the 8 points of superiority you want.

FOSTER MACHINE COMPANY

A Winder for Every Textile Purpose

WESTFIELD, MASSACHUSETTS, U.S.A.

SOUTHERN OFFICE, JOHNSTON BLDG., CHARLOTTE, N. C.

When you receive Franklin Process Colored Yarns in your mill, there's more than meets the eye. For instance, these hidden values count heavily, as well as the obvious quality of yarns and color:

1. AS YARN MERCHANTS, we select and purchase for your account the best yarn for the purpose, thus saving you time and trouble and centralizing responsibility.
2. YOUR YARN CAN BE DYED IN 2500 LB. BATCHES, if your requirements are sufficiently large, which simplifies color handling in your mill and practically eliminates the shade variation problem.
3. THE LARGEST PACKAGE DYEING CAPACITY IN THE WORLD, with 5 strategically located plants, and adequate, up-to-date winding equipment, makes for better than average deliveries.
4. UNMATCHED LABORATORY FACILITIES AND NEARLY HALF A CENTURY OF EXPERIENCE practically guarantee *consistent* quality in yarns and colors.

These hidden values often represent the difference to you between success and failure in making yarn dyed fabrics. They are available at no extra cost. Get in touch with our nearest plant the next time you need colored yarns.

Franklin Process

COTTON YARNS & CUSTOM YARN DYEING
LARGEST PACKAGE DYERS IN THE WORLD

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PROVIDENCE
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Automatic control

for winding and tensioning, at low initial cost — without unnecessary bulk or expensive maintenance

Now available in improved design*, and in larger capacity to extend the line, the new Twin Disc Model 12.2 and 8.4 HYDRO-WYND provides a *more effective, more economical answer to automatic winding and tensioning control.*

Extremely compact — easy to install—either the 12.2 or 8.4 HYDRO-WYND combines a fluid coupling with a planetary gear set. Pre-determined tensions—once set—are maintained automatically, regardless of variations in the load demand . . . and with no further adjustments required. The result . . . *higher output per day . . . improved product quality . . .* fewer man hours required.

For complete information on the new HYDRO-WYND, call your Authorized Twin Disc Hydraulic Dealer—or write Dept. DS, Racine, Wisconsin.

*New HYDRO-WYND design features include rearrangement of gear train, better bearing spacing, and new carbon-against-steel spring-loaded seal.

TWIN DISC
CLUTCHES AND HYDRAULIC DRIVES

TWIN DISC

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

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What the TEXTILE MILLS are doing

84,000 sq ft of warehouse and storage space—about 70,000 sq ft for the transportation section, and the rest for the decorative fabrics weaving and preparatory buildings.

At Douglas, Ga., **Karen Dale Mills, Inc.,** is building a new mill for the manufacture of seamless hosiery. The company is owned by Z. S. Gordon, Melvin S. Gordon, and N. G. Store of Massachusetts.

Greenville (Miss.) Mills, a division of Alexander Smith, Inc., Yonkers, N. Y., has been officially opened and is now in production.

"Avondale Denim Day" is the title the civic officials of Pell City, Ala., gave October 23rd, the time they chose to officially honor their chief industry. Avondale Mills' employees, officials, and denim were honor guests of the people and businessmen of Pell City who desired to show their appreciation to the product and the people who have played a part in the social, civic, and spiritual growth of the community. Everyone in the area—which means Eden, Oak Ridge, and surrounding communities

Left to right: Roy Coshatt, Pell City optometrist; J. Craig Smith, president of Avondale Mills; and Mayor Joe Kilgore.

—took part in the affair, and everyone wore clothes made of Avondale denim. The program was not all speechmaking; it was a program of fun, frolic and eats, and the entire program was spotlighted at the city's Alumni Stadium. Dr. George Eaton of Myers Park Baptist Church, Charlotte, N. C., was the principal speaker.

Deltox Rug Co., Oshkosh, Wis., has been purchased by **Armstrong Cork Co.,** Lancaster, Pa., but will continue

Announcing 6 new sure shades in

CELAPERM*

the Celanese* acetate yarn with the "sealed-in" color

The color story is *complete*. Every important and desirable shade—for every end-use market—is now available in a magnificent palette of Celanese Celaperm.

These colors are *authoritative*—as right as consultation with top mills, converters, cutters in every end-use market, as well as leading fashion authorities can make them. And these colors are *compatible*—designed to live with each other—and to make everything they go into, go *better*.

These six new shades have been engineered with all of Celaperm's unquestioned color performance.

Here then is your best opportunity for planning and promotion from one producer's color cards—as well as your most *exciting* opportunity for imaginative styling. Stay *sure* with Celaperm. To see these new shades that color the future contact any of these Celanese Yarn Offices: Charlotte, North Carolina, Box 1414; New York, N. Y., 180 Madison Ave.; Camden, New Jersey, 300 Broadway; Boston, Mass., 140 Federal St.

Celanese

CORPORATION OF AMERICA, NEW YORK 16

*Reg. U. S. Pat. Off.

Ol' Si is a whiz at sizing things up!

Your Seyco man views all angles of every situation. He sees your problems from your side of the desk, and is at his best when he's helping you track down answers to production problems.

Next time you're searching for just the right sizing, softener or bleach, or have a question about the use of any other product, put him to work. He's a regular "Sherlock" at sleuthing out the solution.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

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SEYDEL-WOOLLEY & CO.

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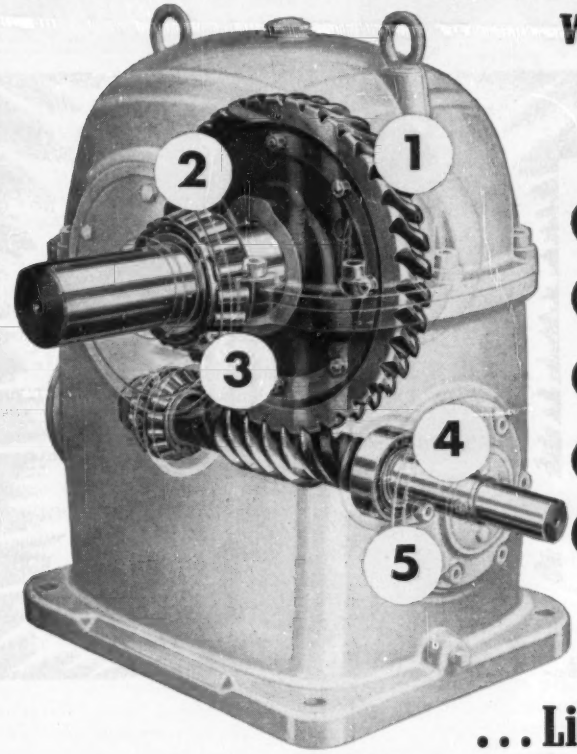
SEYCO

When your speed reduction job calls for high ratios with right-angle takeoff . . .



1. **NICKEL-BRONZE WORM GEARS,** chill cast in dry sand, combine low coefficient of friction with high tensile strength.
2. **HIGH-CAPACITY ROLLER BEARINGS** take both thrust and radial loads. Lower wear and friction losses reduce maintenance.
3. **ALL-SPEED EFFICIENCY** results from reduced sliding action between worm threads and gear teeth, plus smoother power delivery.
4. **ONE-PIECE FORGED SHAFTS** are alloy steel, carburized and heat-treated for great impact resistance.
5. **AUTOMATIC SPLASH LUBRICATION** reliably supplies oil to all bearings and gear teeth at all speeds.

. . . Link-Belt gives you

everything you want in WORM GEAR DRIVES

WITH their compact, high-strength design, Link-Belt Worm Gear Drives permit high-ratio speed reductions in small space. High input speeds and low output speeds are provided, with ample capacity for heavy loads.

Three basic types cover the complete field of application: Single worm gear drives, helical worm gear drives and double worm gear drives. All are available with either horizontal or vertical shafts, and single or double gear reductions for convenient and compact connection.

Link-Belt Worm Gear Drives are available in ratios to 8000:1, to over 100 hp and 124,000 pound inches torque. For all the facts, contact your nearest Link-Belt office or authorized stock carrying distributor.

Ask for a copy of Book 2324-A, containing selection, rating and dimensional data on Link-Belt Worm Gear Drives.

Get the RIGHT drive combination from LINK-BELT's complete line

In addition to worm, parallel shaft and in-line shaft gear drives, Link-Belt builds variable speed drives, fluid drives—chains, sprockets, couplings, bearings, shafting, etc. All are pre-engineered for easy installation and maximum efficiency.

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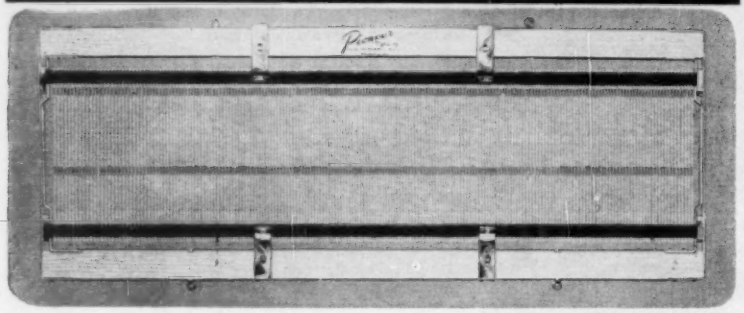
13.707

PIONEER'S DRAW-RITE FRAME

IT'S NEW!



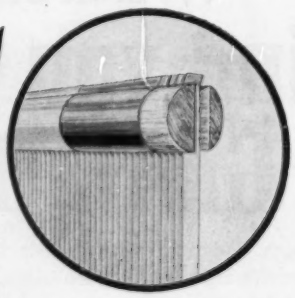
PAT. APPLIED FOR

The Pioneer Draw-Rite Frame fulfills all the requirements of the new-type drawing-in machine. Features include an end piece which enables heddles to be slipped on and off easily; heddle bars which are riveted to rod supports; and a complete adjustment on each support.

Draw-Rite Frames are available with both single and double bars. Double bars can also be drawn on drawing-in machine. Draw-Rite Heddles are available for all type frames.

PIONEER'S NU REED

With Patented Rib Construction



The 10% to 15% extra weaving space afforded by NU REED has made this the Reed that mills have sought for many years. Added strength is gained by using wider wire, making a more resilient, durable reed. No loom realignment is necessary and NU REED is interchangeable with standard reeds in use today.

INVESTIGATE THESE FAMOUS MILL-TESTED PRODUCTS:

FLAT STEEL HEDDLES
REPAIR HEDDLES
FRAMES
ACCESSORIES
REEDS
TAPE SELVAGES
COMBS
DROPWIRES

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Odell Mill Supply Co.
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Tel. LD. 965

Greenville Textile Supply Co.
Greenville, S. C.
Tel. LD. 48

What the TEXTILE MILLS are doing

to operate as the Deltox Rug Co., although a wholly owned subsidiary of Armstrong Cork. Carl E. Steiger remains as president, with T. C. Widder, Jr., formerly assistant to the president, as general manager. According to Mr. Steiger, the principal reasons for selling were to assure Deltox and all its employees a strong continuity of management and ample capital for expansion.

46 supervisors in the North Carolina plants of **Fieldcrest Mills** have recently completed a course in "Time Study for Supervisors." The purpose of the course was to familiarize the supervisors with the techniques used by the standards department in taking time studies for the establishment of workloads and piecework rates.

A modernization program is underway at **Gold-Tex Fabrics Corp.'s** plant in Rock Hill, S. C. Two new buildings are being built—a cotton warehouse and a slasher building—along with improvements and structural changes in the weaving department, additional storage facilities, a modern laboratory, a modern air-conditioned office, additional rest-room facilities, etc. Also included are a central station air conditioning system for the weaving department, additional air conditioning in other departments, an elevator, and new power sub-station.

A two-day celebration was held at Rockmart, Ga., last November in honor of **Goodyear Tire & Rubber Co.'s** 25th Anniversary of its Clearwater Mill No. 2. An open house party for the general public was held on Friday, November 12, with a parade, barbecue, and other festivities for the employees and their families on Saturday, November 13. Fifteen employees of the mill, completing 25 years service, were honored during special official ceremonies. This was the third 25th Anniversary celebration held by Goodyear in the South this year—others were at the Gadsden, Ala., and Atco, Ga., plants.

Gotham Hosiery Co. of Philadelphia, Pa., recently moved its operations to Meridian, Miss., occupying a plant formerly owned by Sanson Hosiery Mills, Inc. Gotham has taken over Meridian Industries, a fully-owned subsidiary, and has installed about $1 million worth of ad-

JACQUES WOLF

Combination for Protection

...Against Gas Fading

Jacques Wolf's versatile Dileine and Meleine series of inhibitors offer you a complete range of gas fading protection in both the dyeing and finishing process.

For a positive guard against gas fading it will pay you to investigate the Dileine and Meleine series for superior results, greater selectivity, and ease of application. These versatile inhibitors can be *custom formulated* to meet your specific problems and plant conditions.

DILEINE for Dyeing—Eliminates predyeing operation and special preparation of goods. Dyeing may be carried out at high temperatures when Dileine and dyestuff are used simultaneously in dyebath.

MELEINE for Finishing—Applied in the finishing operation of box or jig dyed fabrics. Assures a supple hand on resin treated fabrics. Highly resistant to drycleaning and washing.

Write today for complete details and specifications. If you have a particular gas fading problem our technical department would welcome the opportunity of working with you towards a solution.

JACQUES WOLF & CO.
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☐ Have representative call for demonstration
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What the TEXTILE MILLS are doing

ditional machinery moved from Philadelphia, including about 20 machines of 51-66 gauge.

Williamston (S. C.) Cotton Mills, Inc., a newly-formed subsidiary of **Hesslein and Co.,** has purchased the Williamston, S. C., print cloth mill from **Textron Inc.**

The **H. R. H. Silk Hosiery Mills Inc.,** of Quincy, Ill., and Moberly, Mo., has been purchased by **Se-Ling Mills Corp.**

Employees of **W. A. Handley Manufacturing Company,** Roanoke, Ala., have erected a memorial to the late Winfred Page Enloe, agent of the company from 1935 until his death in

April 1954. The project was sponsored by Lowell Study Club, composed of women employees of the mill, and each mill employee contributed working time toward cost of the memorial.

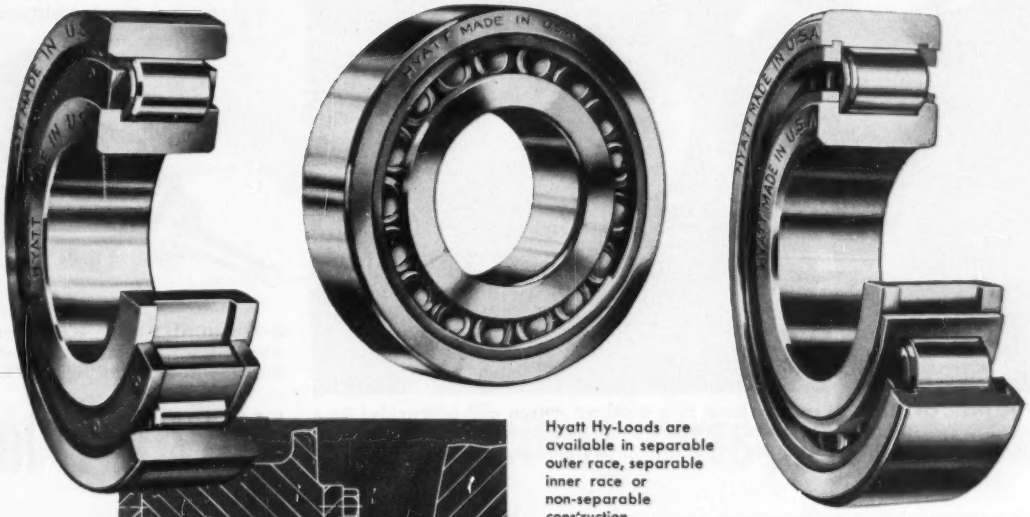
In Winston-Salem, N. C., approximately 165 houses in the **P. H. Hanes Knitting Co.'s** village recently went on sale. First preference was given to the employees living in the houses. Unsold houses were offered to other employees of the company, and then to the general public for higher prices. P. Huber Hanes, Jr., said the move was motivated by a desire to make it easy for the employees to become property owners and to stimulate pride of ownership in their homes.

Industrial Dyeing Corp. is a new

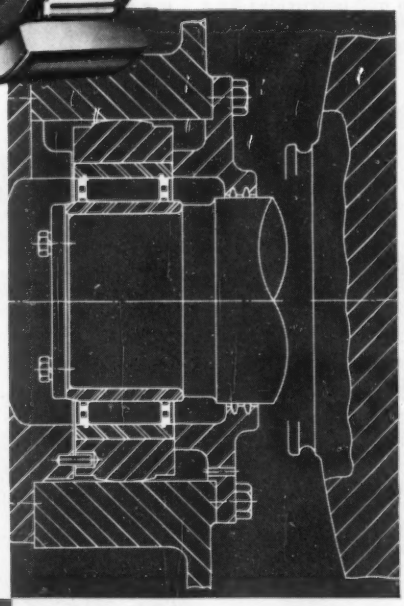
(Continued on page 171)

Is shaft expansion a problem?

HERE'S HOW HYATTS HELP...



Hyatt Hy-Loads are available in separable outer race, separable inner race or non-separable cons'ruction.



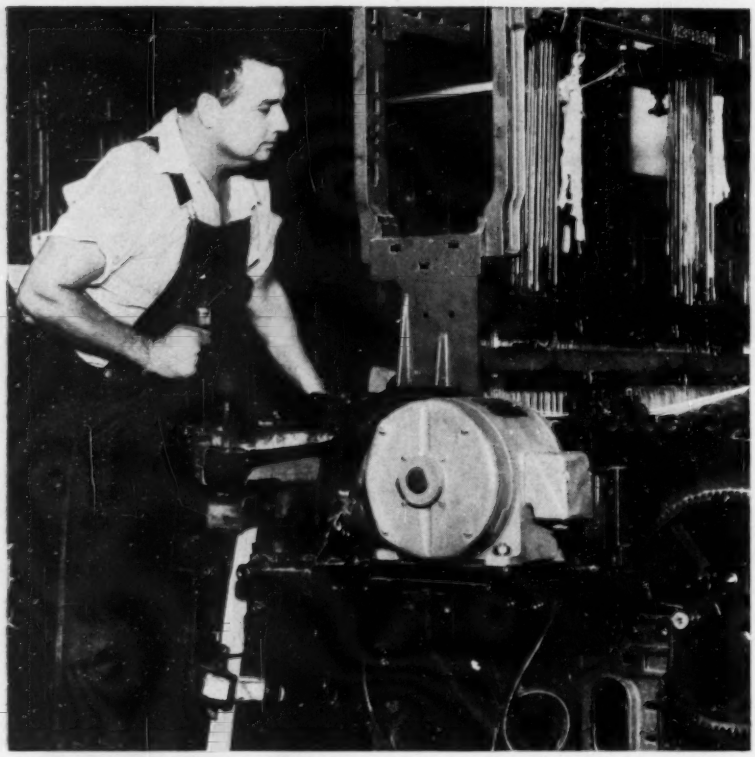
Check the drawing at the left. The bearing is a Hyatt Hy-Load, and because the inner race is cylindrical, the shaft it supports is free to move axially—thus allowing for shaft expansion without cramping the bearing or distorting the shaft. Obviously, this is only one of many ways in which Hyatt bearings can be used to reduce costs as they reduce friction, but it's a good example of why so many designers throughout industry keep their Hyatt catalogs within easy reach.

For further details write for Catalog 150 or call your nearest Hyatt representative.

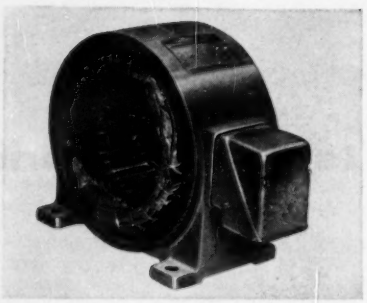
HYATT ROLLER BEARINGS

STRAIGHT BARREL TAPER

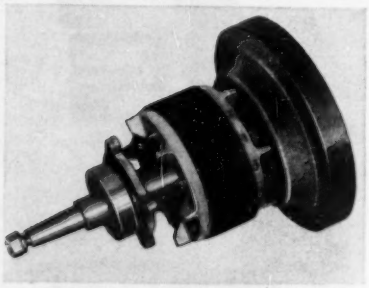
HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, NEW JERSEY



SMOOTHER OPERATION on this loom in a southern cotton mill is provided by a 1-hp G-E Tri-Clad '55' loom motor. This new motor has protection features—physically and electrically—not usually found in ordinary motors.

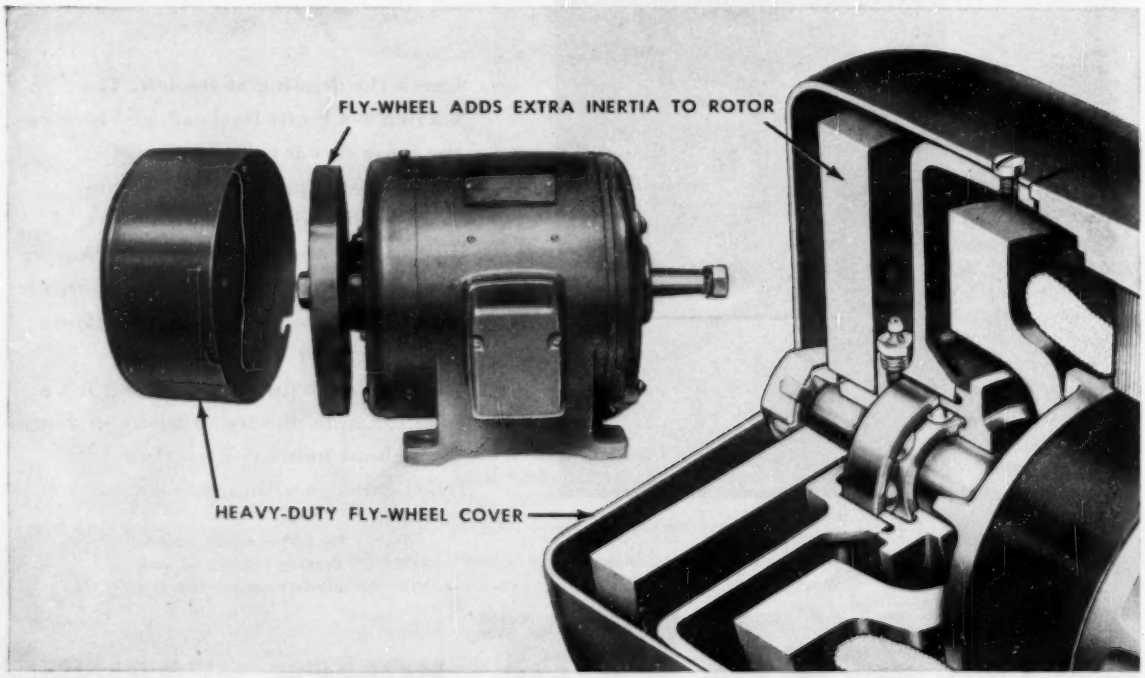


NEW STATOR INSULATION, entirely coated with G.E.'s new Dri-Film silicone water repellent, resists moisture.

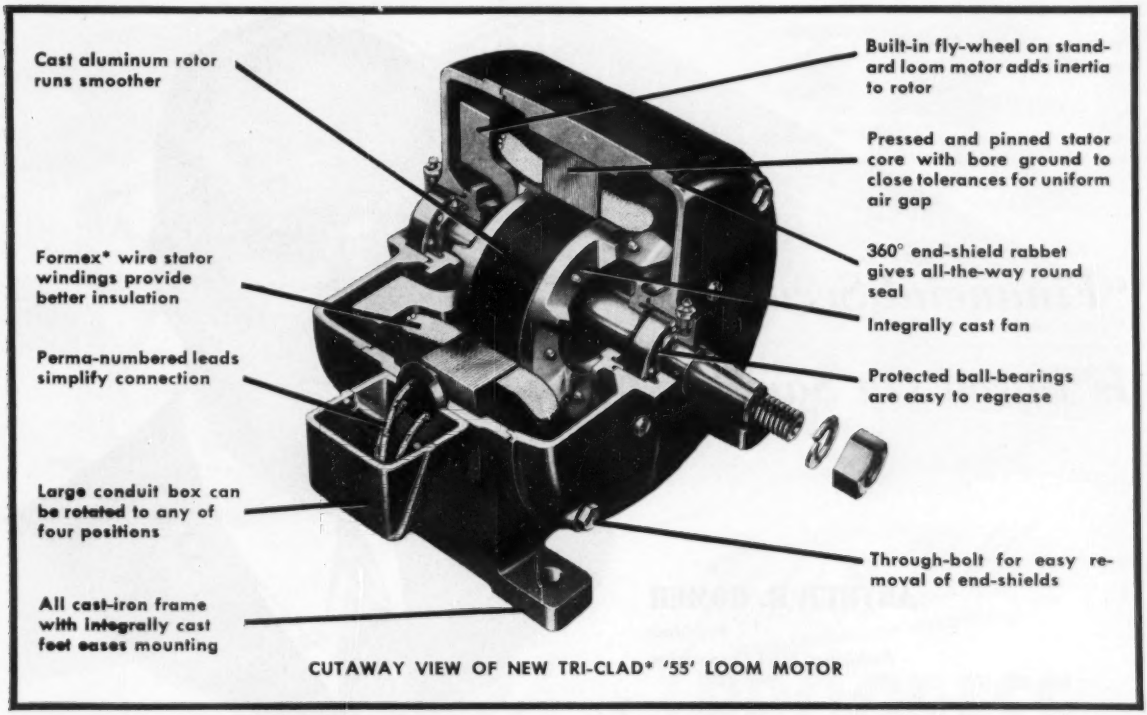


DYNAMICALLY BALANCED rotor and fly-wheel—rotor has integrally cast fans, is shrunk onto shaft for tighter fit.

NEW G-E loom



MORE CONSTANT PICKING SPEED—on those few applications requiring extra high inertia—the standard G-E loom motor can be fitted with an external fly-wheel. Where loom cycles vary widely, this enables the new motor to successfully do a job usually requiring a larger motor. Constant speed gives you more effective picking and lower power costs. Photo shows motor with cover off, and cutaway view demonstrates how the extra fly-wheel becomes an integral part of the motor.


Cast aluminum rotor runs smoother
Built-in fly-wheel on standard loom motor adds inertia to rotor
Pressed and pinned stator core with bore ground to close tolerances for uniform air gap
Formex* wire stator windings provide better insulation
360° end-shield rabbet gives all-the-way round seal
Integrally cast fan
Perma-numbered leads simplify connection
Protected ball-bearings are easy to regrease
Large conduit box can be rotated to any of four positions
Through-bolt for easy removal of end-shields
All cast-iron frame with integrally cast feet eases mounting

CUTAWAY VIEW OF NEW TRI-CLAD* '55' LOOM MOTOR

motor gives constant picking, cuts power costs

APPROVED BY FACTORY MUTUAL, new switch keeps lint out, keeps motor running full time.

New extra-protected motor in both standard and fly-wheel types, plus new lint-tight switch, combine to help withstand severe loom service with minimum maintenance

Top fabric output is possible when you power your looms with General Electric's new Tri-Clad '55' loom motors. The standard motor has an internal fly-wheel, and the fly-wheel motor has both internal and external fly-wheel for applications requiring extra-high inertia.

Extra motor protection is built in by using new insulating materials and cast-iron end-shields and frames. Stator laminations are welded in eight places for a more rigid steel core, and G.E.'s Dri-Film* silicone water repellent virtually eliminates core insulation failure due to high humidity.

Large Grease Reservoir enables motor to run for long periods without regreasing. When necessary, regreasing is made easy by simply removing drain plug and giving bearing a few quick shots with grease gun.

New lint-tight loom switch has labyrinth seal arrangement around recessed toggle opening. Die-cast aluminum handle slides against moisture-, fungus-, and insect-proof cotton felt gasket.

For more information, contact your local G-E Apparatus Sales office, or authorized General Electric distributor. Write for Bulletin GEA-5858A, General Electric Co., Section 654-35, Schenectady 5, New York.

*Registered trade-mark of the General Electric Company.

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"Financial Security Is Based On Savings . . ."

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President
Bethlehem Steel Corporation

". . . and the purchase of U.S. Savings Bonds through the Payroll Savings Plan is one of the easiest ways for any individual to save for economic security."

If you agree with Mr. Homer that ". . . the Payroll Savings Plan is one of the easiest ways to save for economic security."—

If you believe with millions of other Americans that there is no safer investment than U.S. Savings Bonds—

Why not take a *really personal* interest in your employees and your Payroll Savings Plan?

Pick up the phone, now, and ask the man in charge of your Payroll Savings Plan three questions:

- How many of your employees are enrolled in the Payroll Savings Plan?
- What is the percentage of employee participation?
- When did your company last conduct a person-to-person canvass?

If less than 50% of your employees are enrolled in the Plan . . . if you have not conducted a person-to-person canvass in the past two years *(or if you do not have the Plan)*, act now! Telephone, wire or write to Savings Bonds Division, U.S. Treasury Department, Washington, D. C. You will hear promptly from your State Director, U.S. Treasury Department who will be glad to help you conduct a person-to-person canvass that will put an application blank in the hands of every employee. That is all you have to do. Your employees will do the rest. They want to save for their economic security.

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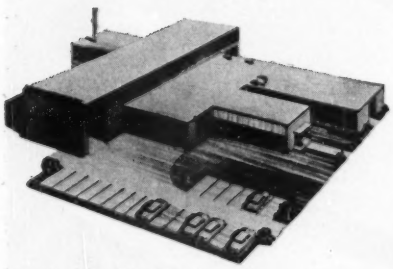
Rubber Roll Signs of PROGRESS

in GRIFFIN, GEORGIA



Architect's drawing of Stowe-Woodward's new Griffin, Georgia plant scheduled for operation January 1955.

There's more to the sign above than meets the eye . . . for this is a sign of progress . . . progress that means better service to the great Paper and Textile Industries of the South.

Griffin, Georgia, in the heart of the industrial South is the home of Stowe-Woodward's new plant, to be in operation in January 1955.

The most modern roll covering plant in the world, it is designed specifically for the unusual requirements of Rubber Roll manufacture, and will be equipped to handle the largest rolls in use today and tomorrow.

"RUBBER ROLLS WITH A REPUTATION"
by

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN — NEWTON 64, MASSACHUSETTS — GRIFFIN, GEORGIA

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Ask to See this New Conical Ring

Special CONICAL RINGS PERMIT HIGHER SPEEDS

For
WORSTEDS
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BLENDS

Special Herr Conical Ring permits higher speed — compensates for variations in tension — prevents yarn breakage — keeps yarn clean — smooth — uniform. No rewicking required. You'll also need Herr Lightweight Flyers to give you light tensions at profitable high speeds on all stretch nylon, crepe and Helanca yarns.

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Formation of "National Textile Association" Urged. Formation of an over-all textile association to represent the entire industry on common problems is called for by Burlington Mills' board chairman J. Spencer Love (who has several times advocated the establishment of a National Cotton Council-like association for the producers of fabrics from synthetic fibers). Such a move would, according to Mr. Love, enable textiles to assume their rightful place as one of the largest industries in the country, and make possible the promotion of textiles to the nation in competition with other consumer products. This is a propitious time to make such a move, in view of the growing interdependence of all textile fibers, and the present upturn in the economic state of the industry, it is felt.

How to Solve Textile Unemployment. At the request of the White House, a plan to relieve textile unemployment has been submitted by TWUA-CIO president Emil Rieve. He advocates distribution of textiles to the needy, both home and abroad; re-establishment of textile stockpiles for the armed forces; Federal unemployment benefits to take over when State benefits expire; and restoration of a healthy economy to the textile industry.

Market Research for the South. Diapers for New England. The South can get at least its share of the country's continuing industrial growth, but only if southern manufacturers make more vigorous use of the tools of modern marketing research, according to Walter Kelly, vice-president of Commercial Factors Corp. These techniques should be learned and used to set up a continuing guide for keeping sales sights constantly on the big main target that's constantly changing—the market with the biggest sales and profit potential for the business. On the other hand, New England's pessimists should remember that that region's economy is better symbolized by the maternity ward than by the undertaking parlor. "Many more things still will be born here than will be carted away to the undertaker," says Mr. Kelly.

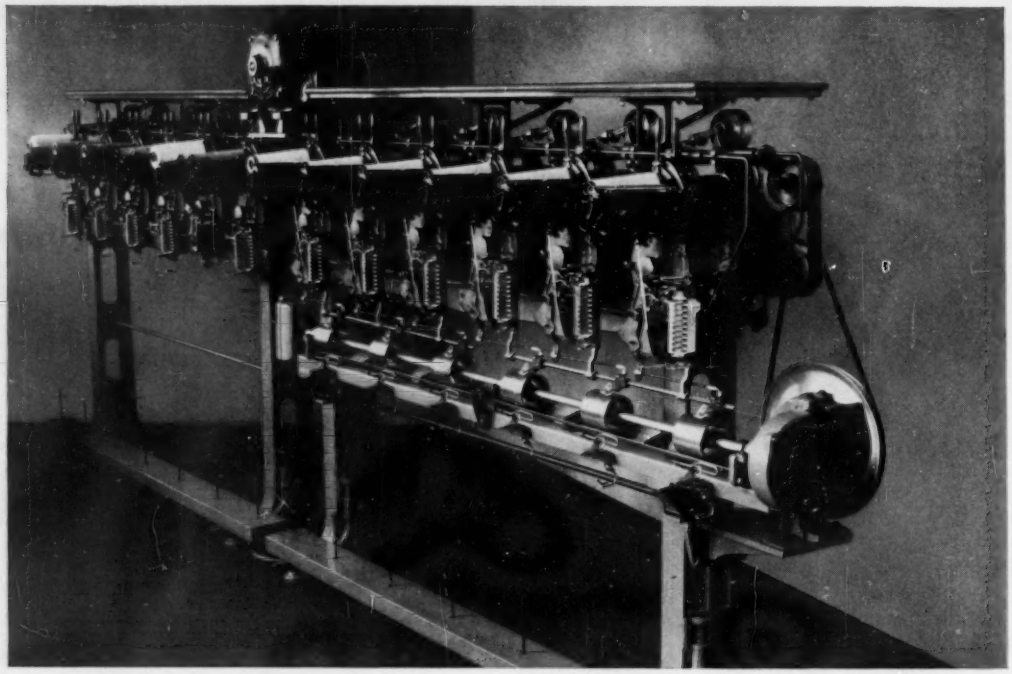
Mergers a Healthy Sign. The mergers during the past year or so, involving about 150 textile companies with more than 50,000 employees, were a natural result of the changeover from the sellers' market of the 1940's to overproduction and the buyers' market of the present, says Donald B. Tansill, president of M. Lowenstein & Sons, Inc. Among the advantages of these mergers are (1) Better financial position for the new, merged company; (2) Improvement of facilities, to keep the company competitive and retain its business; (3) Diversification of products—more goods to sell to more end-use markets gives better balance to the company's business; (4) Sales research and product research—more likely in bigger companies.

Hubby's Cool, But the Little Woman's a Square. During the first nine months of 1954 men bought as many pairs of hosiery as did women, per capita, in spite of the fact that men's socks are made of much heavier and more durable material. The explanation of this particular situation, the hosiery manufacturers say, is that men have a high regard for style and color coordination in the selection of their socks, and women's notions in this field are still rather primitive. Many women still fool themselves into thinking they can find a color that will "go with everything," an idea which most men abandoned as soon as they got out of uniform.—National Association of Hosiery Manufacturers.

Answer to Wool's Ills—Increased Production. Increased production is the wool-growing industry's best answer to the challenge of competitive fibers and to the threat of violent wool price fluctuations which damage the industry, says Reginald G. Lund, New Zealand member of the International Wool Secretariat and a Director of The Wool Bureau, Inc. The threat to wool is in terms of quantity and price, not quality, according to Mr Lund.

Taxpayers Get a Break? "Don't fuss about the new tax returns — the more complicated they are the better for the taxpayer." This is the advice of Martin M. Lore, New York tax lawyer and accountant writing in a recent issue of "The Journal of Taxation." He refers, of course, to the new tax return forms for individual taxpayers. Taxpayers don't realize how well off they are, Mr. Lore said, for the simplest tax is usually the least fair. The more exactly it permits the reporting of facts, the more precisely can the tax be determined.

Business Men Expect Definite Upturn. Dun & Bradstreet's regular quarterly survey of larger and medium - sized manufacturers, wholesalers, and retailers found



World's Most Versatile Precision Winder – The Leesona No. 50

Designed to build the greatest variety of precision wound packages of natural and synthetic yarns, the Leesona No. 50 Winding Machine can be adapted to the changing requirements of any of these materials — and even of jute and paper. Shipping cones wound on the No. 50 contain the greatest weight of yarn in a given space, and the precise regularity of the wind adds valuable sales appeal to the compact packages.

Four New Performance-Improving Attachments

Vertical Tension Control allows independent adjustment of tension and pressure, providing more precise control from start to finish of package. Simple to operate, with calibrations making it easy to record settings for future use.

Free-Turning Roller Bail has ball bearings seated in bail holder, rather than in end of roll. This reduces bearing surface speed and lengthens bearing life. Sealed bearings, besides protecting yarn from oil absorption, need no further lubrication.

Automatic Quick-Doffing Arbor for dye cones and tubes. Contracts when starting handle is pushed, releases finished package easily. When handle is released, arbor expands automatically, to hold new carrier securely.

Soft Pressure Attachment winds filament yarn to a low density for uniform high pressure dyeing. Permits very close control over winding pressures and tensions, resulting in packages of correct density from each spindle.

Get further facts on the Leesona No. 50 — the flexible, all-purpose precision winder now winding a major percentage of the world's coned synthetic yarns and used by all leading thread mills. See your Universal Representative or write direct for bulletin.

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Agents in every principal textile center throughout the world
Winding and Twisting Machinery for Natural and Synthetic Yarns

business men expecting a definite improvement in the first quarter of 1955, compared to the first quarter of 1954. The survey shows that 56 per cent of the executives interviewed look forward to higher sales and 43 per cent expect larger net profits after taxes. Only 13 per cent anticipate lower sales and 12 per cent expect smaller net profits. The balance of these businessmen are of the opinion that their sales and profits will show no appreciable change.

European Cotton Men Air Problems. Among the actions taken by the International Committee of Cotton and Allied Textile Industries at a recent meeting in Barcelona, Spain: (1) Noted with concern the increasing complaints by spinners of the presence of immature fibers and trash in raw cotton deliveries, and invited responsible authorities in the cotton producing countries to investigate the causes of and take measures to eliminate these immature fibers and trash; (2) Discussed with representatives of the National Cotton Council of America the possibilities for co-ordinated action between the American and European cotton textile industries in the fields of market research and sales promotion; (3) Viewed with alarm the danger of European markets being flooded with cheap Japanese cloth finished in Europe and re-exported to other European countries; (4) Reaffirmed its opposition to the proposed amendment to the U. S. Commodity Exchange Act which would require non-resident, non-members of American commodity exchanges to divulge details of business transactions in markets outside of the U. S. [See TEXTILE INDUSTRIES for November, 1954, p. 83]; (5) Decided to hold its next meeting in Brussels, Belgium, in July, 1955, during the International Textile Exhibition.

Yarn Numbering Proposal. The article "Germany Studies Yarn Numbering" by Kurt Hentschel, which is scheduled to appear in the February, 1955, issue of *Textile Research Journal*, will be of general interest to the U. S. textile industry, and particularly to those parts of the industry that produce or use yarns made of various fibers. Two proposals are made: (1) A rounded series with an interval between steps of 6% as a future general yarn number series, and (2) handy conversion tables for the individual types of yarn, which include as corresponding values for the old numbers only the numerical values of the proposed yarn number series in the weight-numbering system.

Tourist Guide Invites Mill Listing. Mills which sell yarns, mill ends, or seconds at retail prices are invited to submit listings to *Tour and Shop*, a tourist guide to mill shops which is now being revised for sale to American motorists. Mills interested should contact Elizabeth Gilpin, editor, *Tour and Shop*, 1715 Walnut St., Philadelphia 3, Pa. The book contains no advertising and there is no charge for listing.

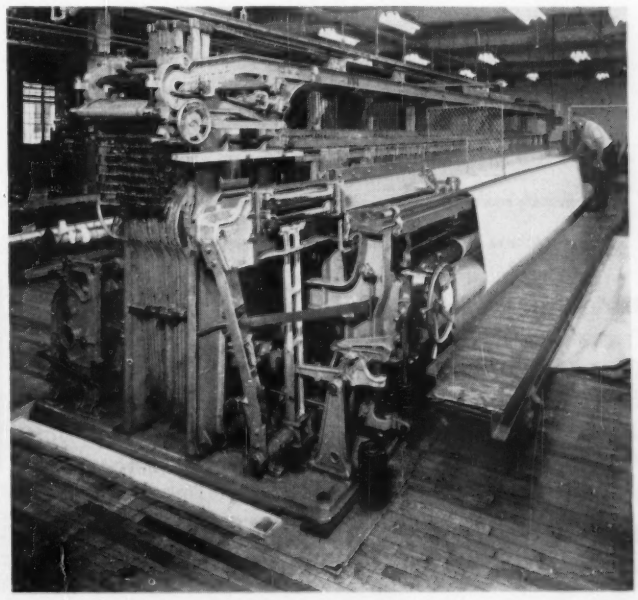
The Poor Man's Dale Carnegie. "You Can Give Orders That Get Action" is the title of a 22-page booklet which tells supervisory personnel how to influence people while, if not winning friends, at least without having orders fizzle and without irritation and confusion. The booklets are available at 25 cents each from the National Foremen's Institute, New London, Conn.

Carded Yarn Study Available. A market study of the carded sales yarn industry has been released

F. C. Huyck Gets New British Loom

To satisfy the growing requirement for more tightly woven, firmer papermakers' fabrics, F. C. Huyck & Sons, Rensselaer, N. Y., recently installed the British-made loom shown here. Said to be the only machine of its kind in the United States, it has attracted a great deal of attention and interest from textile men and users of papermakers' felts.

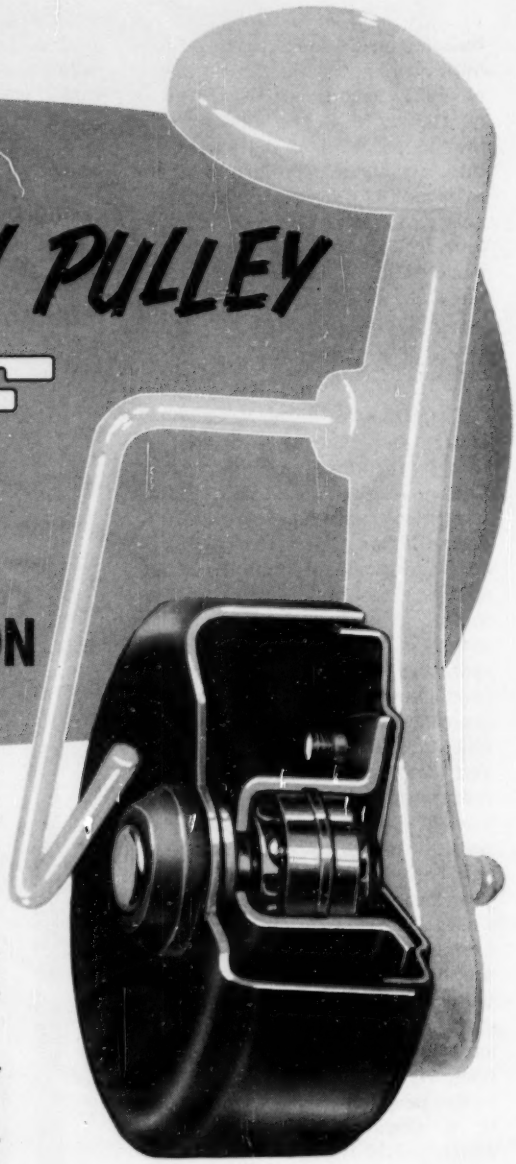
According to the announcement, the new loom permits the weaving of very heavy constructions not possible on conventional domestic equipment. In addition, it incorporates mechanical features which make possible greater weave uniformity and straighter, more even edges.



A NEW TENSION PULLEY

From SKF

8 WAYS BETTER
LOW IN COST
PROVEN IN OPERATION



Available for immediate delivery, this new SKF Tension Pulley is an improved design, supplementing the one originated by SKF in 1933.

Here are its 8 cost-cutting advantages:

1. *Designed around a tilt-proof double-row SKF ball bearing.*
2. *Low in first cost, low in operating cost, low in maintenance cost.*
3. *Strong all-steel construction for long life.*
4. *Needs lubrication only once every 3 years for 3-shift, 6-day operation. Grease fitting makes re-greasing easy.*
5. *Because it is the inner ring of the bearing that rotates, lubrication is more efficient and capacity is higher.*
6. *Fly and dirt proof.*
7. *Smooth running, almost noiseless.*
8. *Two screw fasteners make it adaptable to various type brackets.*

SKF, the pioneer, still leads with more efficient anti-friction textile units. Ask your nearest SKF District Office for all the facts—and have your SKF Field Engineer tell you about three *other* important SKF Textile Bearing Specialties . . . the SKF Pendulum Arm . . . the SKF Ball Bearing Top Roll . . . the SKF Roller Bearing Spindle. 7537

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
—manufacturers of **SKF** *and* HESS-BRIGHT® *bearings.*

SKF®
TEXTILE BEARING SPECIALTIES

and is available from the National Cotton Council, P. O. Box 18, Memphis, Tenn.

Textile Courses Still Tops at LTI. Despite the several new courses which have been added, the textile curriculum attracts the most students to Lowell Technological Institute. A breakdown by courses shows that 100 are enrolled in textile chemistry, 190 in textile engineering, 80 in textile manufacturing, 39 in textile sales and management, 13 in graduate textile chemistry, 12 in graduate textile engineering, and 36 in special textile courses, for a total of 470. In contrast, there are 88 students in electronics engineering, 15 in leather engineering, 71 in paper engineering, and 15 in the new plastics engineering program.

How to Solve Wool's Problems. Some of the major problems of wool marketing were re-examined at a recent meeting of the USDA's Wool Research Advisory Committee in Denver, Colo. In wool utilization the committee emphasized the need for further study of the wool fiber and its possible modifications, development of simpler and safer methods for home cleaning of wool products, and development of improved home sewing procedures. Following the example of the cotton industry, the committee recommended the establishment of pilot plant facilities in which labor, equipment, and other economic and engineering problems could be worked out for the wool industry.

Price Not Only Reason for Losing Sale. The head of a large textile organization has a unique system for analyzing the loss of a sale. Each day is placed on his desk the "inquiries lost" and "inquiries thought to be lost" with reasons where possible. Analysis thus far has indicated that sales are lost for many reasons other than price. Tip: Analyze your own loss of sales; perhaps your sales methods or personnel—not price—are losing business.

PTI to Get Dormitory. Ground breaking ceremonies were held on November 4th for a new residence hall to be built on the campus of the Philadelphia Textile Institute. The building will house 150 students and is scheduled for completion in September, 1955. Construction is made possible by a $600,000 loan from the government Housing and Home Finance Agency.

MERCHANDISING NOTES

Chicopee Mfg. Corp.'s Lumite Division is producing a drapery fabric with a Dynel warp and saran filling. The fabric has been approved by the New York City Board of Standards and Appeals as safe for use in places of public assembly, and is listed by Underwriters Laboratories, Inc., under "flame-proofed" textiles.

Cone Mills, Inc., has initiated a long-range program to change the weight designation of its denims to a square yard basis from the time-honored practice of selling on a weight basis for 28-inch goods. The program started January 1st, but for the next year the company will designate weights by both systems.

National Cotton Council announces that National Cotton Week this year will be observed from May 9 to 14, earliest that the annual event has been held.

National Knitted Outerwear Association's swim suit group has adopted tentative standards for woven elastic swim suits. The standards attempt to set minimum performance levels for satisfactory usage.

Premier Knitting Co. will show sweaters of Acrilan this spring, first time that such sweaters have been offered.

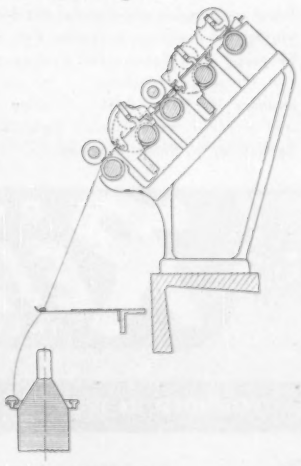
"I Lose a Little on Each Item, But Make It Up on Volume." The urgent need of the textile industry, says C. C. Hertwig, board chairman of Bibb Mfg. Co., is for each individual mill to practice self-discipline and refuse to give its goods away, by figuring costs correctly and selling at a price which will net a reasonable return. He emphasizes the danger of cutting production only after building up huge inventories and then cutting prices to a figure which nets nothing but a loss. If the market will not sustain a price which will allow mills to run 114 hours a week, then each mill should reexamine its production schedule and determine to sell its individual production at a cost which will bring it a reasonable return.

For More News Briefs Turn to page 187

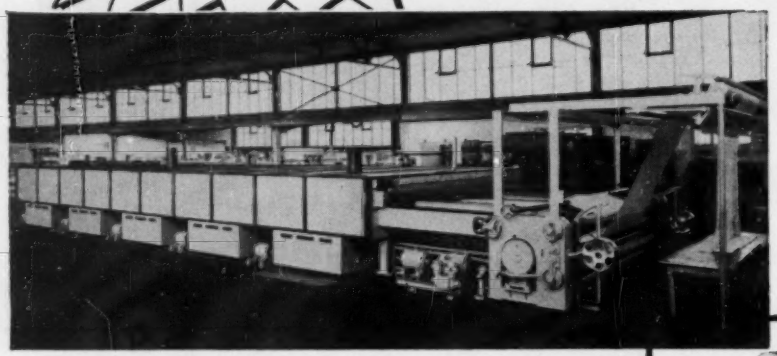
Japanese High Draft System

In cooperation with the Toyoda Automatic Loom Works, a Japanese spinning machine maker, Kureha Spinning Co., Ltd., of Osaka, Japan, developed the spinning frame drafting system shown in the accompanying drawing, and it is being extensively used to produce yarns of higher quality, according to a recent issue of "The Kureha Textile Review," the firm's house organ.

Inclined at an angle of 45 degrees, the system consists of five rolls, with an apron at the top and bottom, as indicated. Total drafts from 45 to 120 are possible with the system.



2 New REINER SENSATIONS!



The Efficient *New* FAMATEX TENTER

PRODUCT of one of the world's largest manufacturers of such equipment, and sold through Reiner-Famatex, Inc., the Famatex Tenter is a compact, versatile, highly efficient and economic unit. It is suitable for both knitted and woven fabrics—its performance has been proven on natural and synthetic fabrics. Nylon setting equipment is also available. For processing of woolens a carbonization unit can be obtained.

The tenter has a stepless speed range of from 1-200 yards a minute. This can be regulated while the machine is in operation. Another unique feature consists of a compartment under the dryer containing a lattice-type conveyor for cooling and conditioning of cloth so it emerges at room temperature.

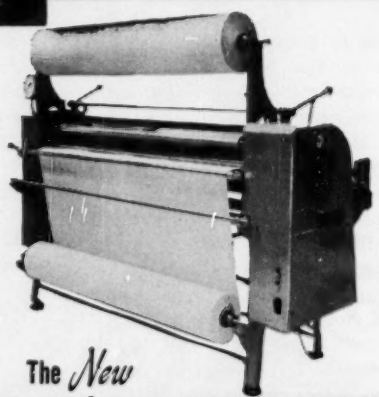
Other features: **Top quality production at substantial savings — Pin and clip combination permits maximum versatility — Extremely low steam consumption — Single unit installation, no piecemeal additions.**

NO OTHER TENTER LIKE IT!

Request complete details.

THE REINER LINE INCLUDES:

Tricot — Simplex and Raschel Machines — Warpers and Creels for all widths and needs — 4 Section Full Fashioned Hosiery Machines up to 75 gauge — 4 Section Full Fashioned Sweater Machines — Automatic Flat Power Rib Machines — 10 and 15 yard Automatic Schiffli Embroidery Machines—Bobbin Winding Machines (for quilting and stitching) — Multihead Automatic Embroidery Machines — Ready Spare Part Service for all Reiner Machines.



The *New* RABO '54 PERMANENT PLEATING MACHINE

(working width 59½ inches) for processing woven and knitted fabrics of synthetic or natural fibers. Specially developed to produce wash-proof flat, knifed and box pleats in a limitless variety of patterns and designs. Among its many features are sliding guides for pleating several narrow strips simultaneously — temperature control by patented thermionic system — automatic re wind of pleated fabrics — automatic paper feed — water cooled outlet table and many other features. Also available is a twenty-inch Crystal-Pleater, with or without bow attachment.

Further Details Upon Request.

ROBERT REINER INCORPORATED

10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903 — **554-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY**

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

1954 Profits Better (than 1938)

IN THE September issue of TEXTILE INDUSTRIES we called your attention to the profit record of the textile industry by quarters for 1952 and 1953. We mentioned that the 1.1 percentage of earnings to sales after taxes, which was registered for the fourth quarter of 1953, was probably the lowest quarter we had seen since the mid-nineteen thirties, and we expressed the *hope* that the end was now in sight. "Perhaps," we said, "the only way to go is up."

Came then figures for the first quarter of 1954, and with a sharpened pencil we found that the net earnings to sales after taxes was again 1.1 per cent. This, we thought, is certainly the trough between the waves! Little did we know that not even with this had the textile industry plumbed the depths of despair.

We looked aghast at the returns as they began to come in for the second quarter of 1954. From the dollar standpoint, the industry's profits after sales for this quarter were $16 million, which compares most unfavorably with the $83 million during the same quarter of 1953. When compared with sales for second quarter, this $16 million in earnings figures out at a staggering .58 per cent.

There is, however, a brighter aspect to this sorry picture. In 1938, the textile industry suffered a *net loss* of one per cent. Stated another way, the industry experienced net earnings of -1 per cent! We have made a New Year's resolution, to-wit, that henceforth we are not going to say that the only way to go is up. Experience has proved that no matter where you are you can always go *down*.

The Right to Work

Remember back in the Days of Roosevelt when there was so much talk about the Freedoms? One of the Freedoms which they stressed especially was Freedom from Want, just as though the time would ever arrive when people would not want something. Even Franklin, himself, wanted a third term, and just a few months ago Franklin, Jr., wanted to be Governor of New York. At any rate, there was a great deal of talk about the Freedoms and there was also a great deal of talk about various *rights* with which the Creator had endowed us as American citizens.

One right, however, about which we heard nothing in those days was the right to work. It was some years later before Congress got around to spelling out this right in Section 14(b) of the Taft-Hartley Act. Stated briefly and simply, this Section says that nothing in the federal law shall prevent the various states from passing legislation which makes it illegal for you to deny employment to a man who refuses to join a labor union.

Immediately upon the passage of this Section, nay, even prior to its passage, there came a great wailing and gnashing of teeth. This, they said, was carrying the Freedoms and the rights too far!

Since the passage of this Section, more than a dozen states have passed right-to-work laws, but as November 5 dawned cold and grey, these state laws began to appear somewhat shaky. The changes in committee assignments which were brought about as a result of the elections prophesy that a difficult fight is shaping up on many questions, one of which will be the possible repeal of Section 14(b) of the Taft-Hartley Act.

It will be interesting to see how the Palace Guard explains away the right of a man to join a labor union or not join it, as he sees fit, while insisting that he and his children should have the right to go to Church, or not to go to Church, to go to any school he wants to attend, to be or not to be.

Raise the Minimum Wage?

Still another question which it seems likely will come to the front in January is the level of the minimum wage guaranteed by the Fair Labor Standards Act. You will recall that FLSA was passed about 1938 and that in subsequent stages the minimum rate has been raised to its present level of 75 cents an hour. The thoughtful reader will not confuse this, of course, with the 87 cents minimum, the $1.00 minimum, etc., which are required by the Walsh-Healey Act for work on certain government contracts. Nevertheless, you might as well prepare yourself for a determined effort to raise the current FLSA minimum from 75 cents an hour to $1.25.

A likely "compromise" is $1.00.

We already know ahead of time that those who oppose such a move are going to be charged with not wanting to pay people a living wage. If they passed a law requiring everybody to wear hats, and you objected to it, they would probably say that you did not want people to wear hats. Where, Oh,

Is your problem here?

TRY PROFINE!

UNSATISFACTORY "HAND"?
PROFINE gives you a unique characteristic finish.

NEEDLE BURNS?
Sewing needles slide smoothly through PROFINE – treated fibers . . . eliminate burning and cutting. Sewing is faster . . . seams are stronger.

STATIC TROUBLE?
PROFINE is a superior anti-static agent on natural and man-made fibers.

TOO MANY NAPPING RUNS?
PROFINE is helping many mills to cut down materially on the number of napper runs.

YELLOWING?
Processors report that the yellowing resistance of PROFINE is remarkable.

SHADES VARY AFTER DYEING?
PROFINE performs efficiently after dyeing operations – doesn't break down or affect shades.

Perhaps *your* particular finishing problem is not among those listed above. But there's a good chance that Profine can help smooth out any finishing problem you may run into at a future time. There's a still better chance that a thorough test of Profine in your mill can demonstrate some important advantages over any other finishing agent you may now be using. It's worth thinking about.

Procter & Gamble
TEXTILE FINISHES SALES DEPT.
CINCINNATI, OHIO

MAKERS OF OLATE, PROXOLS, ORVUS and KYRO PRODUCTS FOR SMOOTHER TEXTILE PROCESSING.

Profine . . . *the trouble-free finishing agent*

where are the boys who were talking about the Freedoms and the rights of the individual?

More GATT

One or two issues back we tried to give you a layman's explanation of the General Agreement on Tariffs and Trade, which is popularly referred to as GATT. One or two learned people have remarked to the editors that this appeared to them to be an accurate column and so perhaps we did not stray too far afield.

One error we believe we made was in stating that the Contracting Parties to the General Agreement on Tariffs and Trade would meet at Geneva, Switzerland, in November, when actually they will meet in February. However, what we are agitated about this month is the list of products which has been released by the United States Government, and upon which they will negotiate with the other thirty-two nations involved.

As we pointed out in our earlier column—and this is purely and definitely a biased opinion—the American people are being sold far, far down the river by the striped pants boys who negotiate for us.

This list of products, says the government, is merely a list on which the United States may *consider* offering concessions. Although the Geneva meetings will include discussion of trade with many countries, the textile industry is particularly interested in the government's statement that "The President has given high priority to expansion of Japan's trading opportunities. . . . ."

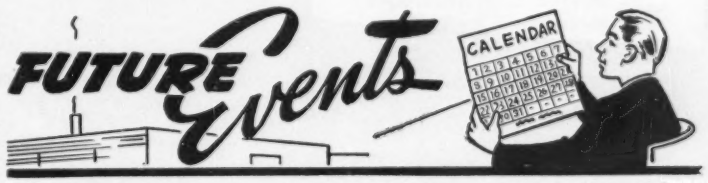
Now for the list of those items upon which the United States is going to consider making some concessions. We could go down the list of cotton textile items and quote to you from the official record, but a great deal of time and space may be saved by stating simply that just about everything made from cotton is included, and the diplomats, for fear they might have overlooked something, throw in a quick reference toward the end to "manufactures, wholly or in chief value of cotton. . . . . " not elsewhere mentioned.

Synthetic fabrics seem to have escaped but synthetic yarns come in for their share of attention, as do almost all types of garments, wool rugs, blankets, etc.

Keep in mind that this largess is being considered for Japan. While we do not want to sound unduly cynical, nevertheless, it is rather hard to keep in mind who won the recent war.

Just for a refreshing change, we would like to see a list of the concessions the United States is going to try to get from *other* countries at Geneva. It seems that every list we see is a compilation of what we are going to try to give away, and just to relieve the monotony we would like to see a list of what we are going to try to *get*.

Will some kind reader please send us such a list?



Jan. 14—Meeting **Philadelphia Section, AATCC,** Kugler's Restaurant, Philadelphia, Pa.

Jan. 14—Meeting **Western New York Section, AATCC,** Buffalo, N. Y.

Jan. 14—Meeting **Hudson-Mohawk Section, AATCC,** Albany, N. Y.

Jan. 24-27—Plant Maintenance and Engineering Show, International Amphitheatre, Chicago, Ill. Held in conjunction with conference at Conrad Hilton Hotel.

Jan. 24-28—International Heating and Ventilating Exposition, Commercial Museum and Convention Hall, Philadelphia, Pa.

Jan. 27-29—Annual conference, Textile Div., American Society for Quality Control, Clemson (S.C.) College.

Jan. 28—Meeting **New York Section, AATCC,** Georgian Room, Hotel Statler, New York, N. Y.

Jan. 31-Feb. 1—Annual convention, National Cotton Council of America, Hotel Shamrock, Houston, Texas.

Feb. 4.—54th annual banquet **Philadelphia Textile Institute Alumni Association,** Warwick Hotel, Philadelphia, Pa.

Feb. 11—Meeting **Washington Section AATCC,** Washington, D. C.

Feb. 16-18 — Cotton Research Clinic, sponsored by the National Cotton Council, Pinehurst, N. C.

Mar. 10-11—Annual meeting, **Textile Research Institute,** Hotel Commodore, New York, N. Y.

Mar. 17-18—Spring meeting **Southern Textile Methods and Standards Association,** Clemson House, Clemson, S. C.

Mar. 31-Apr. 2—Annual meeting, American Cotton Manufacturers Institute, Palm Beach (Fla.) Biltmore Hotel.

April 7-9—52nd annual convention, **Phi Psi Textile Fraternity,** Lowell Technological Institute, Lowell, Mass.

April 13-15—50th anniversary meeting, **Alabama Cotton Manufacturers Association,** Hotel Buena Vista, Biloxi, Miss.

April 25—Annual meeting, **National Association of Hosiery Manufacturers,** Claridge Hotel, Atlantic City, N. J.

April 25-26—Hosiery Industry Conference, Claridge Hotel, Atlantic City, N. J.

April 25-29—Knitting Arts Exhibition, sponsored by N.A.H.M., N. K. O. A., and Underwear Institute, Atlantic City (N. J.) Auditorium.

April 27-29—55th anniversary convention, **Cotton Manufacturers Association of Georgia,** Boca Raton Hotel & Club, Boca Raton, Fla.

April 28-29—10th **Time Study and Methods Conference,** sponsored by the Society for Advancement of Management, Hotel Statler, New York City.

April 29-30—31st annual convention **Delta Kappa Phi Fraternity** of America Inc., Lowell, Mass. Host, Beta Chapter of Lowell Technological Institute.

May 4-5—Spring meeting, **The Fiber Society,** Alabama Polytechnic Institute, School of Textile Technology, Auburn, Ala.

May 12-14—Annual outing **Carolina Yarn Association.**

June 16-18—Annual convention, **Southern Textile Association,** Mayview Manor, Blowing Rock, N. C.

June 16-20—Materials Handling Exposition, International Amphitheatre, Chicago, Ill.

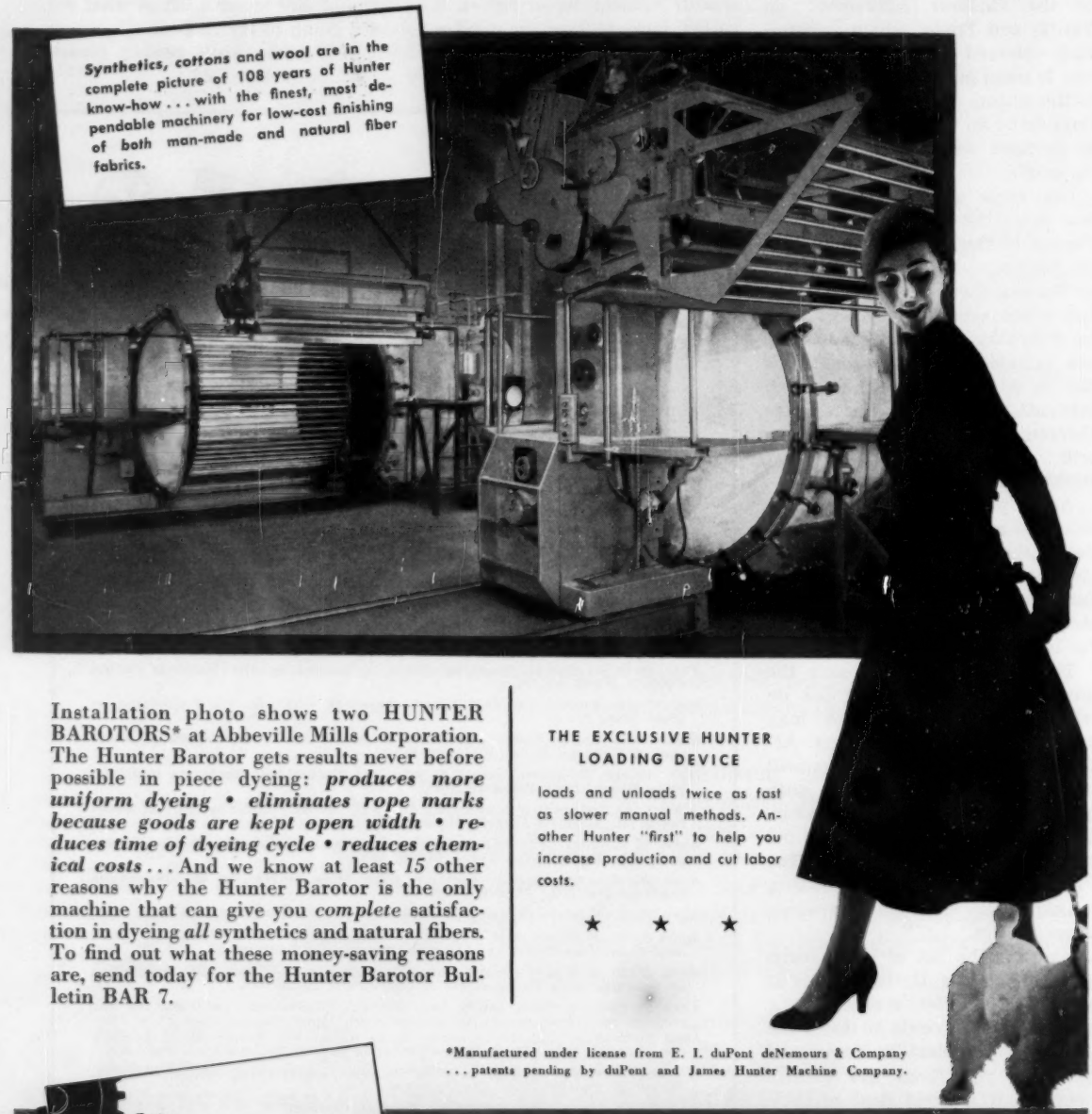
June 25-July 10—International Textile Exhibition, Brussels, Belgium.

Sept. 8-9—Fall meeting, **The Fiber Society,** Massachusetts Institute of Technology, Cambridge, Mass.

Sept. 22-25—National convention, **AATCC,** Chalfonte-Haddon Hall, Atlantic City, N. J.

Sept. 29-30—101st annual meeting of **National Association of Cotton Manufacturers** and 3rd annual meeting of **Northern Textile Association,** Wentworth-by-the-Sea, Portsmouth, N. H.

HUNTER *equipment assures Efficient...Economical piece dyeing at* ABBEVILLE!


Synthetics, cottons and wool are in the complete picture of 108 years of Hunter know-how . . . with the finest, most dependable machinery for low-cost finishing of both man-made and natural fiber fabrics.

Installation photo shows two HUNTER BAROTORS* at Abbeville Mills Corporation. The Hunter Barotor gets results never before possible in piece dyeing: ***produces more uniform dyeing • eliminates rope marks because goods are kept open width • reduces time of dyeing cycle • reduces chemical costs*** . . . And we know at least *15* other reasons why the Hunter Barotor is the only machine that can give you *complete* satisfaction in dyeing *all* synthetics and natural fibers. To find out what these money-saving reasons are, send today for the Hunter Barotor Bulletin BAR 7.

THE EXCLUSIVE HUNTER LOADING DEVICE

loads and unloads twice as fast as slower manual methods. Another Hunter "first" to help you increase production and cut labor costs.

★ ★ ★

*Manufactured under license from E. I. duPont deNemours & Company . . . patents pending by duPont and James Hunter Machine Company.

plus production

+ efficient operation of modern equipment
+ less down time of equipment
+ quick, easy repair . . . rapid parts delivery

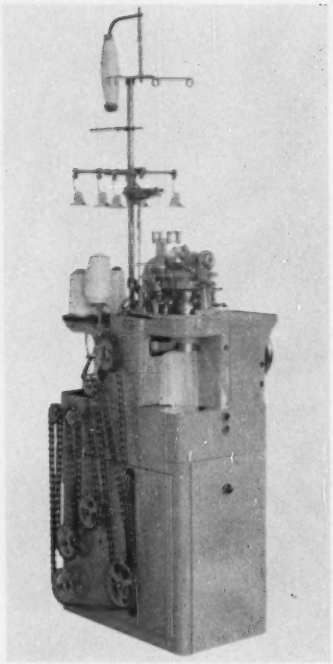
JAMES HUNTER MACHINE COMPANY

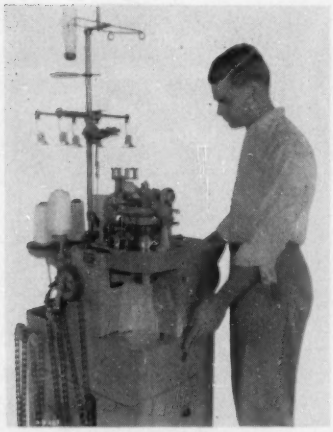
NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

BUILT BY HUNTER . . . IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS.

NEW Equipment AND MATERIALS





Overall (left) and close-up (above) views of the Fidelity Model LB-400 automatic knitter for ladies' hose.

Electronically Controlled Automatic Seamless Hosiery Knitter

A new, completely automatic, electronically controlled circular knitter, the Fidelity Model LB-400, offers advantages of flexibility, safety, compactness, cleanliness, and interchangeability.

This machine, specifically designed for "400" needle seamless hosiery for ladies, is completely equipped with electric stop motions for heel and toe yarns and stop motion protection in case of needle breakage. A simplified yarn tension device is mounted directly above the dial and directly to the rear of the dial driving mechanism.

The switch cam bracket is designed as one complete assembly unit; also the cam ring section. The complete yarn guide bracket and dial assembly is arranged for easy alignment with a self-positioner. All cams in the knitting head are made from tool steel, hardened and precision ground. Particularly noteworthy is the absence of wires; all movements for the linkage are controlled by sturdy, adjustable connecting links.

It is only 46" from the floor to the top of the knitting cylinder of this machine. Precision stamped links are utilized in the master pattern chain which is located on the side of the machine for convenient, rapid changes. A convenient chain reset handle eliminates the necessity for the operator's hand to come in contact with moving parts of the machine.

Other features of the machine are: Size marking attachment; red light below start and stop button signals operator when machine stops—can be seen 100 feet away; interchangeable parts; control box is easily accessible from the aisle; machine occupies space 29" x 27"; weighs 550 lb.

Fidelity Machine Co., Inc., 3908 Frankford Ave., Philadelphia 24, Pa.

For additional data, request item A-104, using Handy Return Card on page 177.

Opening and Blending Picker Features Less Staple Fracture

Maximum blending and opening with a minimum of staple fracture even on the most delicate fibers, high production, low maintenance, and very easy to clean are principal advantages of the new Schofield PreCarder—an opening and blending picker for all types of fibers (animal, vegetable, or mineral).

Used in the preparatory department of the textile mill where synthetics, wool, cotton, blends of wool and synthetics, and fibers such as asbestos are prepared for the carding operation, the PreCarder is of all-steel frame construction in widths of 42", 48", and 60"; main ball bearing cylinder 35½" in diameter with heavy needle point pins—six workers with first four workers intersecting. Workers run at ratio speed of 2 to 1.

The machine is all roller chain and sprocket driven. 10-20 hp motor is required. Variable speed for feed and workers can be furnished if desired.

2000 to 5000 pounds of stock per hour can be produced on the ma-

The Schofield PreCarder.

* Pharmasol and
* Pharmol Blue G

Pharmasol and
Pharmol Blue 2G

Pharmasol and
Pharmol Blue GB

The standard for bright, economical navy shades with good all-around fastness.

Pharmol
Navy Blue F Extra

Bright red blues for rich navys of extreme fastness to light washing and chlorine.

lue

Pharmol Blue 2B

Brighter blues for medium shades of exceptional fastness to light washing and chlorine.

*Reg. U. S. Pat. Off.

PHARMA CHEMICAL CORPORATION PLANTS BAYONNE, N. J.

SOLE SELLING AGENTS FOR PHARMASOLS, PHARMOLS CARBIC-MOSS CORP. 451 WASHINGTON STREET, NEW YORK 13

CHARLOTTE • PROVIDENCE • PHILADELPHIA • COLUMBUS • LOS ANGELES • HAMILTON, ONTARIO

chine, depending on the type of stock and method of feeding. The machine can be fed manually or mechanically and delivers to a fan or condenser. Cylinder can be turned to compensate for wear of pins.

William Schofield Co., Inc., Krams Ave., Manayunk, Philadelphia 27, Pa.

For additional data, request item A-115, using Handy Return Card on page 177.

Automatic Horizontal Bagger for On-the-Spot Waste Collection

A new automatic model of the Windle horizontal bagger is portable, moving on free-wheeling, self-lubricating casters, allowing the operator to move the machine to the stock. Its horizontal structure eliminates the need for holes in floors of mills. It can be fed either directly overhead or from the side.

All stock, such as wool, wastes, or yarns, can be handled by the bagger. The machine is capable of packing 1000 lb of scoured wool in one man-hour of work. It is operated by push-button or foot controls, and pressure is adjustable.

W. W. Windle Co., Millbury, Mass.

For additional data, request item A-109, using Handy Return Card on page 177.

Roll Stand Drill Jig Eases Grease Fitting Installation

The trend to closer control of spinning frame front roll neck lubrication is given a boost by a new drill jig developed for accurate location of grease fittings in the roll stands.

Use of this arrangement makes possible installation of the grease fittings while the stands remain in place on the roll beam. Not only is the drilling operation itself speeded up, and a trip by the overhauler to the machine shop with each batch of stands eliminated, but a tremendous amount of time is saved in relocating and packing the roll stands.

After bottom rolls are laid out of the stands and cap bars set back, the Roberts drill jig seats itself accurately in the front roll bearing of each stand in turn, and the electric drill is advanced smoothly on guide rods and through a hardened drill bushing. All roll stands on an average frame can be drilled in less than one hour.

When used in connection with Roberts "No-Oil" cap bars and saddles, greasing front bottom roll necks serves further to reduce oil seepage into the drafting zones, and provides reduced roll picking, lower oiling costs, and better running work.

Roberts Company, Sanford, N. C.

For additional data, request item A-103, using Handy Return Card on page 177.

Aluminum Section Beam for Cotton and Spun Rayon

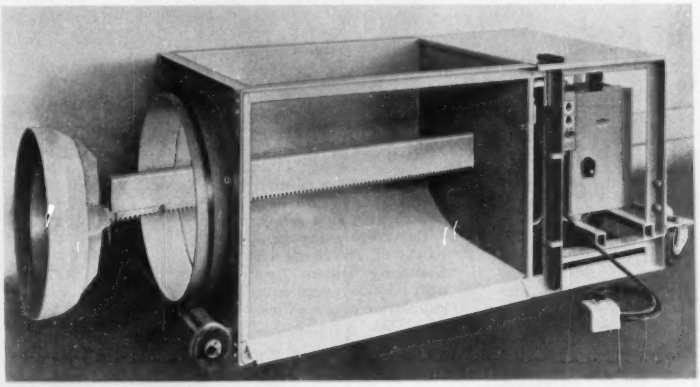
A new aluminum section beam for cotton and spun rayon has been developed.

Although this beam is of light weight, it has been so designed as to give ample strength to withstand the winding of cotton and spun rayon and the high stress caused by centrifugal force at speeds of 1,000 rpm. At the same time, it has been designed to reduce the weight and consequently the cost. This beam fits all currently made warpers.

The beam is 38 inches in diameter and has a traverse of 54½ inches.

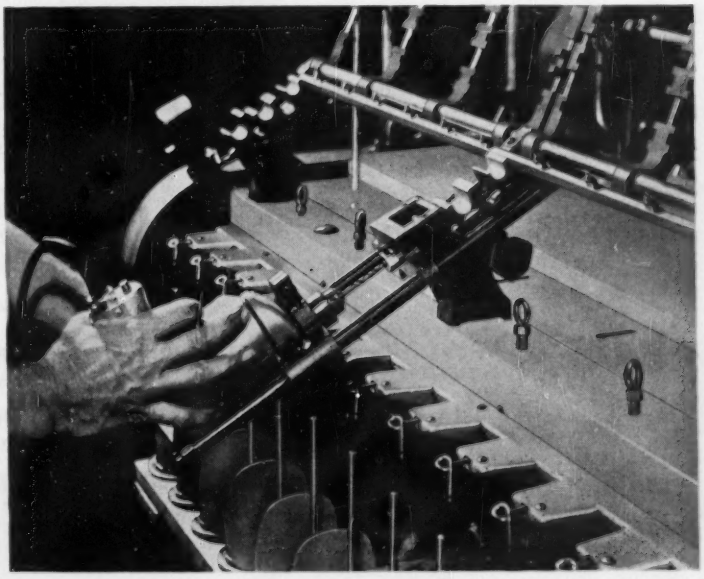
Hayes Industries, Inc., Jackson, Mich.

For additional data, request item A-110, using Handy Return Card on page 177.

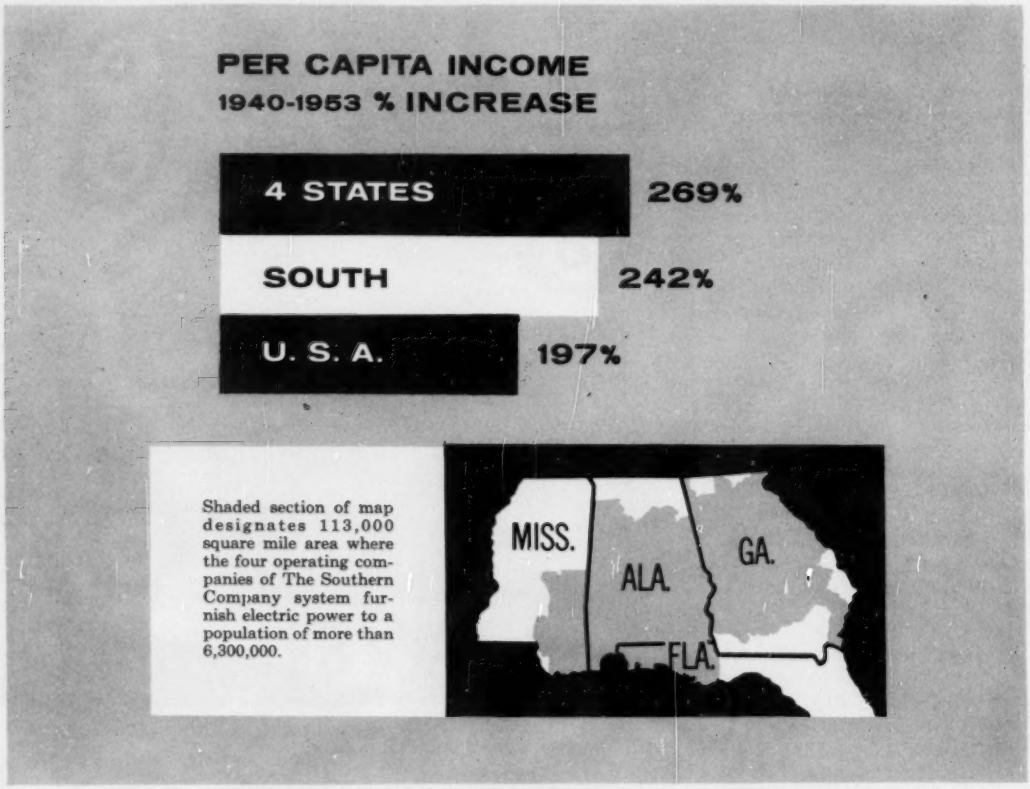


Portable automatic horizontal bagger by Windle.

Man using Roberts Co.'s roll stand drill jig on a spinning frame.



MORE BUYING and BETTER LIVING IN THIS AREA



In the South, per capita income is increasing more rapidly than in the nation as a whole. Gains recorded for the area served by The Southern Company system are even greater.

This greater buying power makes this an increasingly inviting market for consumer products as well as an excellent area in which to establish plants or distribution facilities for finished goods.

Write the Industrial Development Division of any of these companies:

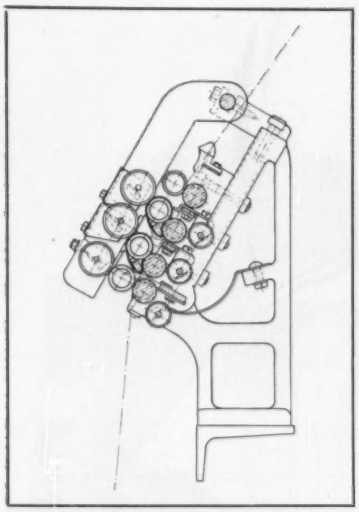
ALABAMA POWER COMPANY
Birmingham, Alabama

GEORGIA POWER COMPANY
Atlanta, Georgia

GULF POWER COMPANY
Pensacola, Florida

MISSISSIPPI POWER COMPANY
Gulfport, Mississippi

THE SOUTHERN COMPANY
Birmingham • Atlanta



The Pfenningsberg four-roll draft system for spinning yarn directly from drawing sliver. It is utilized on all three types of frames shown below.

Frames Spin Cotton Directly from Drawing Sliver

NEW Equipment AND MATERIALS

Existing ring spinning frames can be modified to spin cotton and other staple yarns from drawing sliver with equipment now available. A four-roll super high draft system replaces the conventional drafting system, and a special creel that accommodates sliver cans replaces the conventional creel for roving bobbins.

Conversion of existing frames to spin directly from sliver can be effected in steps without disturbing or changing current production.

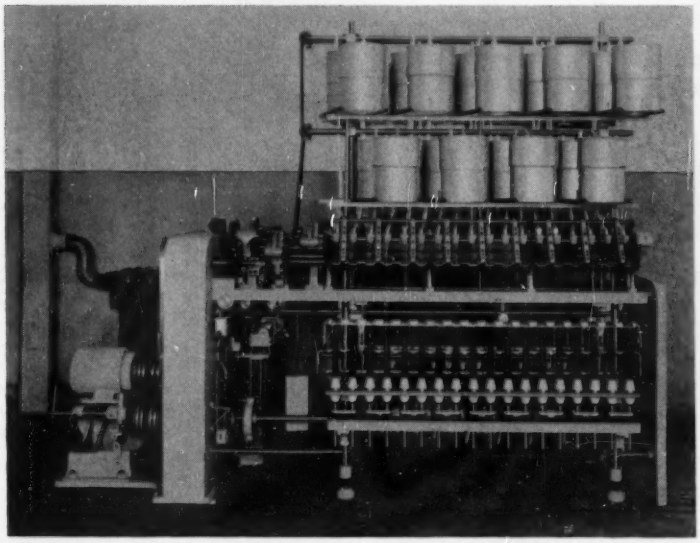
By adopting this system of manufacture, considerable floor space can be gained for other use since processing on fly frames is not required. The fly frames can be disposed of.

Quality of yarn produced is as good and in some cases better than that produced in the conventional manner.

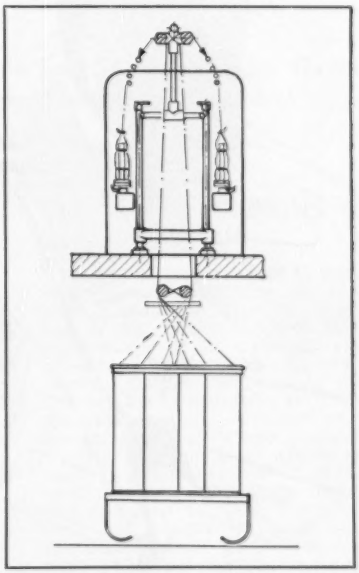
Other advantages: Spinning costs are reduced; less effort required for servicing creel; less drying of fiber; soiling of drafting system is avoided; more spindles can be tended by an operator.

Also produced by this textile machinery manufacturer are all-new spinning frames for spinning yarn directly from sliver. Three different

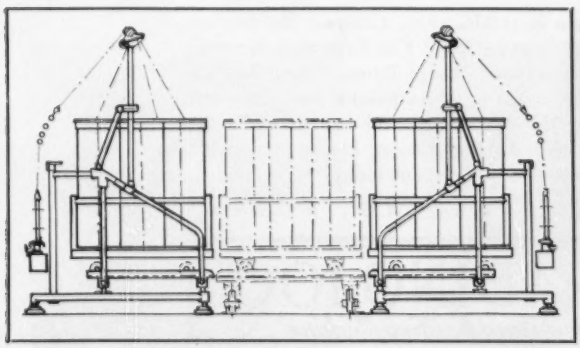
(Continued on page 193)

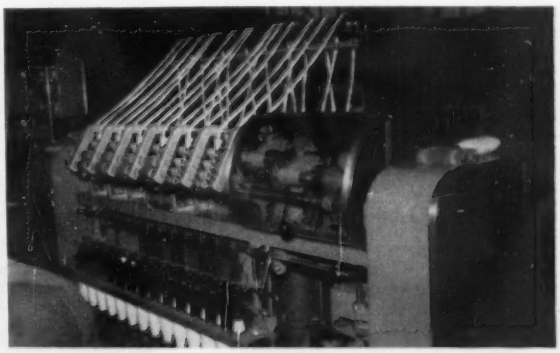


Direct spinner Type RSK—conventional size spinning frame with special overhead can creel for sliver.



Sketch showing how sliver is fed to Type ES machine from cans on floor below.





Single-sided spinning frame (Type KS)—photo and sketch showing how left and right hand models can be placed in room with aisle between.

Prints of this illustration in black and white suitable for line reproduction for use in your advertising, available free on request.

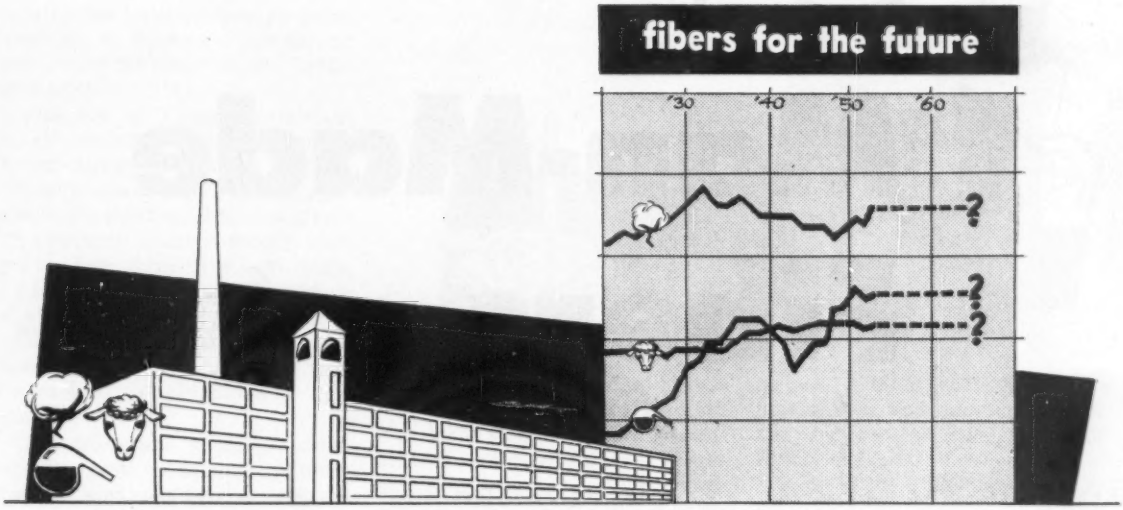
A FACT: In 1953, 18 per cent of the full-fashioned stocking machine sections in use in the United States were 48-gauge or coarser. (Textile Machine Works, 1953 Statistical Survey)

In the hosiery industry, the one unyielding force is obsolescence. Compare the production of your least efficient machinery with a "Reading 100" Full-Fashioned Knitting Machine—in courses per minute, dozens per hour, salability of fabric. The "Reading 100" is not only a fast multiple-section machine, but it is also a reliable one . . . speed without interruption. And with every Reading Machine you get the benefit of Textile Machine Works' engineering help, service and technical experience. Let us present the "Reading 100" story in your office, at your convenience. Write us today.

TEXTILE MACHINE WORKS, READING, PENNA.

The "READING 100"
Full-Fashioned Knitting Machine

30 Sections 51, 60, 66 Gauge



Textile Industries presents a special symposium on the "fibers for the future" by three outstanding authorities in their fields. Cases for the fibers are prepared by:

J. B. GOLDBERG (Man-Made Fibers)

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The Case for Man-Made Fibers

By J. B. Goldberg
Chemical Engineer
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EXCLUSIVE

EARLY research workers in the field of what we now designate as the "man-made" fibers undoubtedly had as their objective the production of yarns which could duplicate or replace real silk. Study of the extrusion of tiny filaments by the silk worm stimulated the scientist's imagination and he conceived the idea of imitating nature's processes for making what was for many years called "artificial silk." It certainly did not occur to man that he could reproduce natural growth by creating fibers which originated from seeds in the fields or developed on the bodies of animals. The extrusion of a solution which could be coagulated into a silk-like thread but at a higher rate of speed and with greater uniformity and at a lower cost seemed entirely feasible.

The nation's economy and high standard of living are based to a large degree on the invention of materials and the development of means for providing more people with products normally available in limited amounts and therefore usually prohibitively priced. Man-made fibers are representative of such products.

Birth and Growth. That the research workers have been successful in achieving their goal is not disputed. From a mere trickle of man-made fibers and yarns emerging from spinnerettes at the turn of the 20th century, we have witnessed the growth of an industry that today produces over 23% of all the textile fibers consumed in the United States.

While we recognize that characteristic American aggressive promotions often "high pressure" the consumer into buying materials that are not entirely meritorious, the survival and growth of new products are dependent on their ability to satisfy consumer wants and to compete economically with their older predecessors. The manufacturers and proponents of the science fibers are fully aware of this law of survival.

In spite of the countless missteps made in the past, and anticipating further unforeseen hazards, there is still reason to be confident of continued success and the gradual replacement of nature's fibers.

The Cellulosic Fibers and Yarns. Rayon, the oldest of the man-made fibers in the United States, is still the most important when gauged by the total poundage consumed. The term "rayon" is applied to the regenerated cellulosic type products comprising viscose and cuprammonium process yarns, the latter being made by only one company.

It is not difficult to ascertain the reason for the industry's rapid expansion and triumph in capturing so many markets heretofore dominated by the natural fibers. For only rayon, up to now, can offer the winning combination of extreme versatility to meet so many demands in the home and industry and a low price.

True, the rayons of the early years of manufacture were far from good by present-day standards, and we can look back at the time when they disintegrated almost at the sight of water. Production was limited to coarse, harsh filaments with a brilliant luster, and dyeing characteristics were far from uniform. Cost, too, was high in its childhood days, and many dire predictions were made of its chances for survival against the staunch competition of tried and proven silk, linen, cotton and wool. But progress was rapid and consistent—half a century is truly but a brief incubation period when compared with the centuries of history and cultivation of nature's fibers.

Fiber Range, Qualities, and Usage. Today's rayon fibers and yarns can be produced in filament sizes finer than any existent in nature's laboratories, while strength and enduring whiteness surpass those of the natural cellulosic or protein fibers. If desired, coarse filaments are available to impart firmness and stiffness, and heavy denier yarns of high tenacity are produced for the fabrication of tough tire cords or sturdy industrial constructions.

Viscose yarns lend themselves admirably to the manufacture of crepe fabrics in a variety of textures, relying on soaking and twisting techniques not unlike those originally used for the manufacture of silk crepes.

A variety of dyestuffs and finishes can be applied to yield finished fabrics to suit the most exacting requirements. Luster can be bright, semi-dull, or dull. Fiber

lengths can be short enough to be used as a flocking material or practically endless without a break or a knot.

The use of fibers of uniform length on conventional mill processing equipment means no significant loss of fibers due to non-spinnable short lengths, and greater assurance of more evenly spun yarns, free from neps and slubs. Filament cross-sections and surface characteristics can be altered at will, and crimp can be made temporary or durable with predetermined amplitude and frequency.

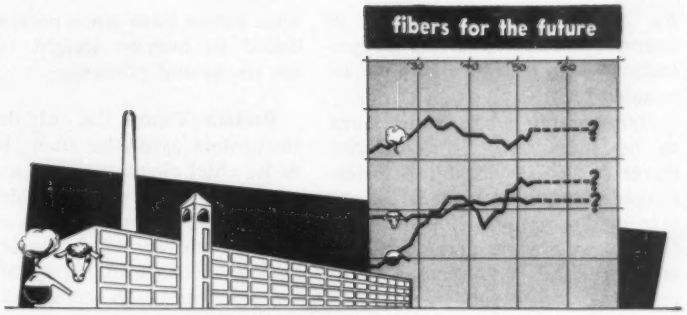
The fibers and yarns are clean and free from contamination, making severe scouring and mechanical or chemical cleansing unnecessary. Consistency of quality is assured by careful chemical and mechanical control, and output is free from the ravages of insects, the whims of weather and soil conditions, or the diseases that may afflict any growing fiber.

Above all, and most important in these days of highly competitive business, rayon is available at a low price which is not likely to fluctuate over short periods of time, except within very narrow limits.

From birth, when babies' diapers and bunting may be made of rayon—to death, when casket linings of rayon are commonly used, even though this is regarded as a very critical end-use, we cannot escape the importance of rayon in our lives. We walk on rayon carpets, sleep in rayon nightclothes, work and play in rayon apparel, ride on rayon cord tires, and relax amid rayon home furnishings.

Cellulose Acetate. Cellulose acetate, the cellulosic companion fiber to viscose, offers many of the advantages of rayon over the natural fibers. While lacking some of its virtues, such as high strength, when combined with rayon or the natural fibers it offers opportunities for creating novel cross-dyeing effects, it has a soft, pleasing hand, superior crease-recovery properties, and reduced sensitivity to moisture changes.

A few months ago Celanese "Arnel," a new triacetate fiber, was introduced, boasting of a number of desirable properties, such as higher temperature resistance, dimensional stability, good dyestuff affinity and color-fastness, crease and pleat-retention, quick-drying, and higher soil-resistance plus lower soil-retention. All of these characteristics and a price well below that of the newer synthetics provide the fabric manufacturer with a new raw material for the creation of apparel fabrics to keep pace with the trend for more "ease of care" garments at a nominal cost.



Du Pont's Type "C" acetate yarn has the property of developing a wool-like crimp in cut pile or brushed fabrics when treated with boiling water. Such yarns are of most interest in woven or knitted fleece fabrics for women's coats, outerwear or boot linings, and for washable scatter rugs.

Solution-Dyed Stock. The incorporation of pigments in the spinning solution prior to extrusion permits the production of all of the above cellulosic fibers and yarns in a wide range of brilliant colors. This technique of "locking in" color provides the utmost in color fastness, greater economies in certain shades, and another tool for the production of novel, fast-color blends in fabrics.

"No single man-made fiber has yet been developed which matches any one natural fiber in every property. Yet the scientist is constantly striving to impart to his test-tube babies the desirable traits of the older living fibers, at the same time avoiding their weaknesses."

Some of the trade-names such as Eastman's "Chromspun," Celanese Corporation's "Celaperm," Courtauld's "Coloray," DuPont's "Color Sealed," and Enka's "Jetspun" are becoming better known than the original white fibers and yarns from the same families. In the undyed state, the cellulosic fibers retain their whiteness throughout their life.

Further versatility in yarn texture is demonstrated by the "thick-and-thin" type of continuous filament viscose, cuprammonium, and acetate yarns being currently produced. Some are available in a variety of slub sizes and distributions, enabling the fabric stylist to create all sorts of nubby and slubby effects.

Fortisan, a saponified cellulose acetate yarn possessing very high tenacity and good resistance to shrinkage and stretch, has found limited applications in sheer apparel, curtain, and drapery fabrics. Yarns of this type are more likely to be in demand for military and industrial uses.

Synthetic Fibers. First of the true synthetic fibers, nylon probably took the shortest period of time to find a special niche for itself and has been acclaimed as a fiber equal or superior to all others in several properties. Outstanding strength, resistance to moisture, high elasticity, and unchallenged toughness and resistance to abrasion all contributed to its skyrocketing popularity.

In wartime service alone, particularly with real silk becoming unavailable, nylon won its laurels.

As a replacement for silk in women's hosiery it earned a reputation which is not likely to be equaled for many years to come.

Nylon staple subsequently came to be recognized as a superior mixer to add serviceability to less rugged fibers, both natural and man-made. In 100% filament yarn form it was relied upon to create an entirely new wardrobe of clothing which could relieve men and women of the chores of ironing, simplifying laundering problems by virtue of its ability to dry rapidly.

The acrylic fibers. Orlon, Acrilan, and dynel, have brought to the consumer new attributes in fabrics heretofore unknown. Shape, crease, and pleat-retention are not obtainable with any of the natural fibers, and the luxurious fur-like hand and appearance of pile fabrics of these synthetics are nonexistent among nature's products.

The alpaca and sheep-skin pile fabrics lack the durability and resistance to insect damage, unless specially treated, properties which are inherent in the man-made "synthetic furs." The natural fibers are also less resistant to moisture and lack the ability to be restored to their original appearance so readily if they become wet in use.

Low density of the acrylics contributes good cover and bulk with a minimum of weight, so important in modern clothing as well as in blankets. The finer denier continuous filament Orlon yarns have a hand which is best described as "silk-like," quite different from that of all other filament yarns.

Polyester. Dacron polyester fiber and yarn are distinctive among the synthetics because of their combination of strength, toughness, and resilience both dry and wet; their use in apparel and industrial fabrics and felts is just beginning to achieve even greater recognition.

Following the introduction of a blend of 55% Dacron-45% wool which has become accepted as a staple in tropical suitings, there appeared on the market a 65% Dacron-35% cotton blend in shirting with almost instantaneous acceptance. This and similar blends with cotton have since been introduced in heavier weight fabrics for slacks and rainwear.

Protein. Vicara, the only domestic protein synthetic fiber, boasts as its chief claim to fame, a cashmere-like hand. It is gaining in popularity where the use of natural fine animal fibers is prohibitive because of high cost and limited supply. A comparatively low price accompanying the ease with which it may be processed and dyed make it economical and practical to utilize in blends with most other fibers.

Outstandingly popular have been the 50/50 blends with nylon for sweaters, and of increasing interest are sportswear fabrics of blends with wool to provide a luxurious hand. In certain industrial applications where resistance to degradation by heat is important, Vicara has been found superior to many other fibers which, although possessing higher initial strength, fail to retain this strength on prolonged exposure to high temperatures.

"The nation's economy and high standard of living are based to a large degree on the invention of materials and the development of means for providing more people with products normally available in limited amounts and therefore usually prohibitively priced. Man-made fibers are representative of such products."

While not of major importance to most people, frequently mentioned is the advantage of the man-made fibers over wool in apparel fabrics by virtue of their non-allergic or "itch" inducing properties.

Vinylidene Chloride. Saran, generic name for vinylidene chloride fibers and yarns, is a thermoplastic synthetic generally unaffected by water, acids, alkalies, weather, and most organic solvents. In monofilament form it is being fabricated for use in outdoor furniture, upholstery and for automobile seat covers, for screens, and chemical filter cloths. Small amounts of saran staple have found their way into carpeting, particularly attractive because of its stain-resistance; dyeing difficulties necessitate the use of solution dyed fiber.

In multifilament yarn form, under the name of Velon, there has been a limited market for marquisette curtain fabrics.

In addition to continuous filament and staple fiber, all of the foregoing man-made fibers are available in tow form for conversion by the mills into direct-spun yarns. Direct-spun rayon yarns with high wet-shrinkage characteristics provide another tool for making novel "pucker" type fabrics and extremely dense constructions for rainwear.

Glass. Glass fiber and yarns, unexcelled in strength, may be extruded as extremely fine filaments. It has the highest density of all commercial textile fibers, high temperature resistance, and is not combustible. Continuous filament yarns are found in electrical insulation and for woven fabrics subsequently impregnated or coated for industrial needs.

In staple fiber form glass is an excellent heat and electrical insulator, serves well for air filtration, accoustical surfacing, and as a reinforcing medium in plastic laminates. During recent years improved fabric dyeing, printing, and finishing techniques have widened the use of glass yarns for marquisette curtains and draperies where durability, ease of cleaning, and dimensional stability are important factors.

Comfort in Clothing. Much has been said about the lack of moisture absorption of the newer synthetics being responsible for discomfort in wearing apparel, and considerable emphasis has been placed on the ability of certain fabric constructions to "breathe." It has been established, however, that water vapor transmission is

independent of a fiber's inherent moisture regain.

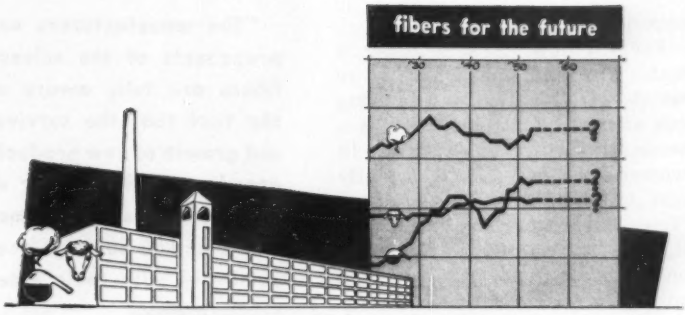
On the other hand, there is not much doubt about the fact that the contact of smooth surfaces with the skin contributes to a feeling of discomfort during hot, humid weather, particularly if the fibers themselves are non-absorbent. At the same time, it is true that although some of the synthetics possess little power to absorb water, they do have a wicking action which speeds water penetration away from the skin and into the interstices of the fabric where they may be evaporated to the air.

The entire subject of comfort in clothing is complex, and at least one yarn producer is devoting considerable time and money to investigation of the factors which affect body comfort. It is reasonable to assume that the findings will be the basis for later study of methods to improve the man-made fibers if the investigation discloses fundamental deficiencies in nature's competitors which can be overcome.

Room for Improvement. It is only fair to enumerate some of the shortcomings of rayon, acetate, and the newer synthetics which are yet to be conquered. In the case of rayons, a high degree of wet swelling and loss of strength while in the wet state are probably the most outstanding failings. Fabric dimensional stability is one of the performances of fabrics which is affected by these inherent fiber properties. Control of fabric shrinkage and improved wrinkle-recovery can be achieved through the use of certain finishes.

Conventional acetate would be a better fiber if it had a higher tenacity, accepted colors which possessed greater fastness, and had a higher ironing temperature. These last two properties have been improved upon in the new Celanese "Arnel" triacetate, as described earlier, with other advantages heretofore found only in the newer higher priced synthetics.

Nylon and Dacron polyester staple are troublesome in some constructions because of a tendency to form pills. The latter has a further deficiency because of its



susceptibility to melting into holes when contacted with hot tobacco ashes. The dyeing of Dacron and some acrylics leaves much to be desired and lower dyeing costs with better color-fastness would be a welcome gain.

All of the hydrophobic fibers suffer from a tendency to generate a large amount of static electricity and to retain some stains and soil. A few of the synthetics take on a dingy appearance from color or other contaminants during laundering or dry-cleaning. The hand of many constructions of filament yarn fabrics is objectionable because of a tendency to feel cold or clammy.

Recent New Products and Processes. Within the past two years alone we have witnessed the rapid development of new products and processes which spell out the advance of man-made fibers. Textured and crimping processes, as exemplified by Du Pont's "Taslan" yarns and Bancroft's "Ban-Lon," give continuous filament yarns new textures, improved cover, loft, and hand. An ingenious technique of twisting and heat-setting, as is found in "Helanca" yarns, has brought about a modification of continuous filament nylon to open huge new markets in so-called "stretch" hosiery and knitted undergarments.

Solution-dyed yarns have created new interest in acetate and viscose. The introduction of "Arnel" offered another working tool for the fabric designer. Lightweight "wash-and-wear" suitings of nylon, Dacron, and the acrylics are capturing more and more of the men's summer wear market. Acrylic fiber and yarns in women's coats and blankets offer home launderability, freedom from moths, and warmth without weight.

Attractive, durable rayon carpeting is consuming about one million pounds of staple every week, with a new, more soil-resistant rayon developed by one producer to make such carpets more serviceable. Nylon has been utilized to bring to the consumer unexcelled durability and easy launderability of bedsheets and pillowcases.

Versatility, Perfection, and Tradition. Thus it is evident that we have at our disposal fibers and yarns with a host of properties to fit into any number of fabrics with specific end-use requirements. Many of them are similar in some respects to the cellulosic natural fibers, as for example in their receptivity for dyes and finishes. Others are more like wool in dyestuff affinity, hand, loft, bulk, and inherent ability to recover from deformation under loads.

Many are very much superior to the natural fibers in one or more properties, such as strength or elasticity, and at the same time are inferior in other characteristics. No single man-made fiber has yet been developed which matches any one natural fiber in every property. Yet the scientist is constantly striving to impart to his test-tube babies the desirable traits of the older living fibers, at the same time avoiding their weaknesses.

In the clothing field tradition and habits have a great deal to do with our objectives in the development of new fibers and yarns. Thus we find that we automatically compare appearance, hand, and performance of new fabrics with those familiar to us through past

experience.

For example, in developing a man's dress shirting, we strive to simulate cotton, while in suiting our standard for comparison is a woolen or worsted fabric. In women's dress goods we constantly aim to achieve a "silk-like" or "linen-like" hand or appearance, the feel and washability of cotton, or the touch and drape of fine wools.

If we were to start life with no preconceived notion of what a fabric should feel like or resemble in appearance, most people would undoubtedly be readily satisfied with well-constructed fabrics of rayon, acetate, or the synthetics.

Outlook for the Future. Analysts and economists have reported that the productivity of the natural fibers, particularly cotton and wool which dominate the field, is approaching a peak. On the other hand, population growth in this country is estimated to be about 2¾ million per year. The annual rate of consumption of all fibers, while below that of 1953, is currently 32 pounds per capita, exclusive of military consumption.

It has been calculated, therefore, that approximately 100 million pounds of additional fibers will be required each year to supply the needs of our larger populace. Man-made fibers, whether they be the cellulosics or true synthetics, are likely to be called upon to fill part of this growing demand. At the same time, it must be realized that if the demand warrants it, cotton productivity could be increased far beyond what it is today.

"The manufacturers and proponents of the science fibers are fully aware of the fact that the survival and growth of new products are dependent on their ability to satisfy consumer wants and to compete economically with their older predecessors."

Progress in improving fiber properties and usefulness or decreasing costs is not achieved without substantial and continued research. In this respect, the manufacturers of fibers, as well as chemical and dyestuff producers, spending millions of dollars on long-range studies are far ahead of the supporters of cotton and wool.

For example, if it is the hand of cotton which is so desirable, it is very probable that we shall one day have a rayon which equals cotton in that respect long before cotton will be modified to resemble rayon.

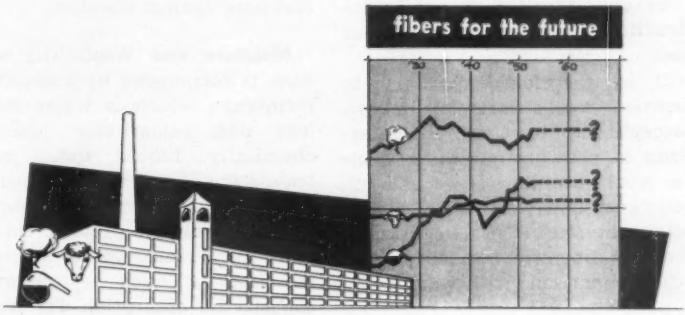
Although rayon has been produced with hollow filaments and with a variety of rough surfaces, it is doubtful that the scientist will ever reproduce the lumen of a cotton fiber or the scales on wool.

Not to be overlooked is the likelihood of lower prices on the non-cellulosics as production and competition increase. At the same time, based on the history of rayon and acetate, there is reason to believe that price stability can be maintained to a far greater degree than for the natural fibers.

We do not plead that the case for the man-made fibers will rest on their virtues and accomplishments to date. The industry's achievements over such a short span of life have been outstanding, and the many years which lie ahead can be viewed with equal enthusiasm and optimism. Perhaps some of the man-created fibers as we now know them will fall by the wayside, but new and improved products will reach higher goals of perfection and offer an ever-growing threat to the old familiar fibers.

REPRINTS of this entire section on "fibers for the future" are available upon request and without charge, as long as the supply lasts. Write to Editor, "Textile Industries," 806 Peachtree St., N. E., Atlanta 5, Ga.

"Wool has earned its place in our wardrobes because of its whole pattern of properties and their effectiveness in the whole range of service we require."



The Case for Wool

By Giles E. Hopkins
Technical Director
The Wool Bureau, Inc.

EXCLUSIVE

THERE is no doubt that the world will require additional fiber supplies to keep pace with population increases. The expanded fiber demand will be further emphasized by improved standards of living, with larger wardrobes diversified by special garments for specific uses. The world fiber demand is likely to exceed the capacity of natural fiber production. Special costumes, designed for particular activities, can utilize fibers with new combinations of properties.

Conservative Promotion: Maximum Utilization of Each Fiber. The consumer and the textile industry will benefit from the development of new fibers with new properties. In the transition period, while the appropriate applications of new fibers are being worked out, it is in the interests of both the consumer and the industry to further the orderly, rather than the spectacular, approach. False starts through unsuitable applications react against all fibers. They hurt the reputation of the fiber improperly applied and disrupt the production and marketing channels of the fiber which is temporarily replaced.

The purpose of this discussion is not to discourage interest in other fibers but to cooperate towards a logical plan for the maximum functional utilization of all fibers. This can best be accomplished by the objective presentation of the properties of each fiber and the service which these properties make possible.

It might be asked why is it necessary to define the properties of wool and the performance of its products. Everyone knows about wool, through a lifetime of intimate contact with it. But it is not enough to rely upon the broad idea that wool is an excellent fiber When the public is faced with claims on special conveniences for new fiber products, it is necessary to present similarly the case for wool in specific terms in order to permit objective comparisons.

The performance of wool has become so closely associated with certain apparel types that we sometimes assume it to be inherent in any fabric which resembles wool. The limitations of wool are well known and have already exerted their influence on our household routines as well as in the gradual orientation of wool to its appropriate place in apparel selection.

Consumer Viewpoint on Newer Fibers. With the newest fibers this is not the case. Neither their advantages nor their disadvantages have been fully explored. The consumer is attracted to new performance characteristics and, quite understandably, promotional claims are concerned primarily with these. The associated disadvantages are more often left to be discovered through experience or they filter down to the consumer through the experience of others.

Until information is available on both sides of the story there is a strong tendency to assume that any new performance value is supplemental to *all* of the basic performance qualities of the traditional fabrics.

Actually, some new characteristics have been introduced which are accompanied by associated negative characteristics. In some cases these negative characteristics are so new that they have never previously been encountered in apparel. It never occurs to the consumer to inquire about them.

For example, who, in the past, would have thought to check the wicking or melting tendencies of a suit or a coat? And who would have anticipated, until experience showed their hazards, that static and susceptibility to pilling would become critical points to check in determining the suitability of a

fiber or a blend in specific constructions designed for particular uses.

It is, therefore, necessary to mention wool's lack of, or low susceptibility to, these characteristics in pointing out the reasons for wool's usefulness, just as moth resistance and washability are so often featured in the advertising of the new fibers in implied or specific comparisons with wool.

Versatile Wool. Perhaps wool's major advantage comes in its versatility. Wool, even when confined to the classic concept as the hair of the sheep, represents a broad range of fiber types. It ranges from relatively inexpensive, coarse, stiff fibers with little or no crimp to fine, highly crimped fibers of extreme softness.

Wool provides the tough, long-wearing fibers used in carpets to give luxurious softness under the severe foot traffic in a theatre foyer or hotel lobby. Wool also provides the fine worsted wools used in lightweight tropicals. The manufacturer has a tremendous range of wools from which to select, according to his interests.

But the versatility goes further than fiber types. Wool's basic properties, such as resilience and felting found in varying degrees in all types, make possible such a wide range of special finishes that, if we had not become so accustomed to them, we would scarcely believe that they were all made from the same fiber. We have lofty tweeds; dense, tough meltons; stiff, horny mechanical felts; open, porous, soft-napped blanket fabrics; smooth-finished serges; and sheer worsteds for evening gowns.

Wool's versatility is shown in other ways. Its properties include paradoxes which fit with remarkable accuracy the demands we make on the fabrics we wear. Wool has a high capacity for moisture absorption and yet it repels liquid water. Wool's inner structure includes such a wide range of chemically active groups that it combines readily with a maximum choice of dyes and finishing agents and yet wool is only difficultly damaged through accidental spillage. Wool can be fabricated to feel crisp to the touch or soft and caressing against the skin.

Moisture and Wool. The wool fiber is surrounded by a sheath or membrane which is water repellent and remarkably resistant chemically. Liquid water penetrates the fiber slowly through small breaks in the membrane which are always present. On the other hand, once water is inside the fiber it finds an enormous capacity for absorption. The inside of the fiber can take up as much as 30% of wool's weight in moisture without the fabric feeling wet.

This slow absorption, coupled with high capacity for total moisture take-up, is important in the comfort of wool garments. Moisture absorbed from damp atmospheres or from perspiration comes in contact with the fiber very gradually and can be removed by absorption into the fiber without condensing and accumulating to fill the voids between the fibers and the yarns.

"The wool industry has been built around a fiber which has produced a broad range of valuable fabrics. Research is now directed towards means for producing even more valuable fabrics at lower costs."

It is the moisture on the fiber surfaces which causes clamminess to the touch and chilling when we cease active exertion or are exposed to a cold wind. This absorption is accompanied by the evolution of heat. In the winter time, when we pass from dry warm air indoors to the cold damp air of the street, the heat evolved has been calculated as equal to the amount of heat ordinarily lost from the body in an hour and a half[1].

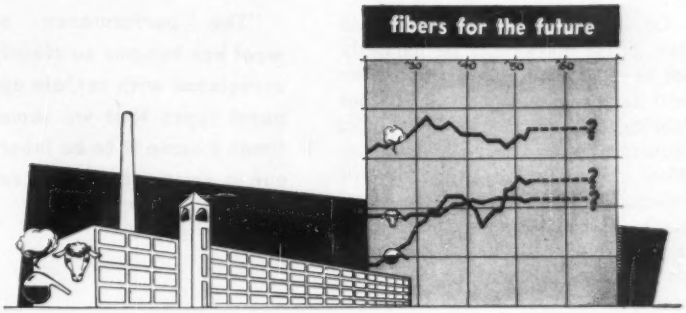
On the other hand, when large quantities of water are locally deposited on our clothing we don't want to soak it up into the fabric, nor do we want it to wick through, drenching our skin or underwear. In such cases the water-repellent sheath or membrane around the fiber slows down the absorption. Furthermore, the natural loftiness and resilience of woolen fabrics provides a surface which encourages the maintenance of the water in the form of droplets which run off.

There is not space here to go into the principles involved[2] but a rough surface, such as found in tweeds, discourages the penetration of liquid droplets, while the smooth, slick surfaces that many fibers produce encourage the breaking down of the droplet formation to cause penetration. Thus wool guards against the penetration of a rain shower or heavy mist, while it absorbs the moisture which comes from the skin.

Some types of stains and chemical damage are caused by the chemical reaction between foreign material and the fibers of a fabric. Here again the water resistant, chemically inactive, outer membrane of wool fiber, plus the characteristic wool fabric surface, discourage accidental spillage from reaching the chemically active inner core of the fiber. There is a maximum opportunity for the spillage to run off or lie on the surface where it can be mopped off without damage.

Fiber Fineness Range. The relative stiffness or pliability (softness) of most fibers depends on the fiber diameter. Wool's range of fineness gives a wide latitude for the control of stiffness or softness to the touch as desired. But wool has an added property which can be utilized. When wool is exposed to light, distorting forces, it offers considerable resistance to deformation. However, as the distorting forces are increased, a point is reached at which further addition of stress will cause relatively easy distortion.

This means that, even within fibers of the same diameter, wool will appear to be relatively stiff when touched lightly but will feel soft when the fabric is grasped firmly. This is the reason that wool fabrics can be crisp without harshness.



Wool's Warmth: Insulating Qualities. Wool has always been associated with warmth, so much so that we frequently hear new fabrics compared with wool as the standard of warmth. Warmth includes two distinct influences. First, there is insulation value or the simple resistance to the passage of heat. Second, there are the physiological reactions that include, among other subtle influences, the disposal of moisture and the reaction to touch.

The first factor, the simple insulation or heat transfer function, is aided by wool's tendency to produce lofty fabrics which entrap air. The air entrapped in the fiber determines its insulation value. Roughly speaking, the insulation value of commercial fabrics is proportional to their thickness. Many superficial laboratory tests are quoted in claims associated with fabric warmth. Unfortunately, the most common laboratory tests measure only the simple insulation value in still, dry air. It would be almost as accurate to merely compare the thickness of fabrics without further tests.

The advantages of wool are not shown unless more realistic tests are involved, including *maintenance* of thickness and the physiological reactions which are important factors in "warmth" sensations. Even in measuring simple insulation in dry air, the effect of handling and air movement must be considered. Wool's resilience assures that the original thickness is maintained throughout its life.

Furthermore, considerable air is entrapped on the two surfaces of the fabric. The resilience of the individual wool fibers causes a definite hairiness of surface. This is extreme in woolen fabric but less obvious, though a factor, in worsted fabrics. The insulation value of air entrapped above the surface provides additional insulation of significant magnitude as compared with that trapped between the surfaces.

We do not wear our garments in still air. We stir up the air with our own activity and we are exposed to drafts indoors and winds out-of-doors. In moving air, not only the fabric thickness but the distribution of individual fibers through the fabric becomes important.

Wool fiber is crimped in three dimensions resembling a helix in form. The fibers take up space in all directions, pushing other fibers away within the limitation of a given tightness of weave or twist of yarn. Fibers which lack three-dimensional crimp or which are not resilient are inclined to pack together, leaving local openings through which the air can pass. With wool, the even distribution of fibers through the fabric maintains the insulating effect in rapidly moving air.

But warmth involves much more than simple insulation. The human body creates moisture. If this moisture is allowed to collect on the fiber surface it is available for evaporation and cooling action. Water is twenty times as heat conductive as the air it replaces, and when water evaporates it cools by the same principle as we use in cooling a refrigerator. Wool absorbs the body-created moisture and moisture which may get into the fabric from outside sources.

Another important warmth reaction involves the sense of touch. A dry fabric feels cool when a larger area of fibers comes in contact with the skin and warm if the skin-to-fiber contact is kept to a minimum. The hairiness of wool fabrics, structure for structure, cuts down skin-to-fiber contact and gives them warmth to the touch. This hairiness is maintained even when the fibers are wet.

Although wool has been more commonly associated with protection against the cold it also has its place in warm weather. We have heard a lot about the clothing of the Arab. The burnoose entraps dry air to be cooled by moisture evaporated by the body. The dense fabric insulates the cooled air from the heat of the outer atmospheres.

In the United States we are more concerned with conditions of moderate humidity than extreme dryness. Our outside temperatures are in the vicinity of body heat rather than the intense desert heat. In urban communities in the United States, the function of garments in warm weather is not to provide active cooling systems but to comply with ideas of decency and provide an attractive appearance with a minimum of discomfort. The tendency of wool fibers to repel each other gives a maximum covering power with a minimum weight.

Wool's resilience encourages the maintenance of a fresh appearance. By the selection of long fibers and the employment of high twist, the hairiness or warmth-to-the-touch can be reduced to the minimum in worsted yarns. Wool's lack of wicking prevents unsightly perspiration stains and its absorption avoids a clammy sensation when wool is worn in warm weather.

Garment Appearance: Pressing: Soiling. Although the design of a fabric is a factor in a fabric's ability to resist crushing or to maintain a press, the properties of the fiber used are of great importance. Wool is plasticized in the presence of heat and moisture, and intended smoothness or creases in a fabric can be inserted by the application of moist heat. Wool will then take on a semi-permanent set in the position in which it is dried. This feature is utilized in pressing clothes. The set is maintained until the fabric is rewet.

Of course, on a warm, humid day, crush marks can be partially set in the fabric. Frequently, these will hang out overnight with wool fabrics, but occasional pressing is required to maintain appearance. Wool is more crush resistant and retains the press much better than many fibers. This is the reason that so much attention has been given chemical treatments to improve crush resistance in their utilization. Wool requires no such chemical treatments.

On the other hand, fabrics made with fibers which do not absorb moisture will not so seriously crush under warm, humid conditions. However, the difference in resistance to crush is relative and the effect of structure rather than fiber properties may obliterate this difference. For example, tropical-weight fabrics made from nonabsorbent fibers may require pressing less frequently than tropical worsteds. On the other hand, in winter-weight constructions, the fabric geometry of the heavier weight minimizes the advantages provided by the lack of absorption and, of course, winter-weight garments are worn in drier atmospheres.

One "cannot have his cake and eat it too." The absorption of wool is responsible for its lack of clamminess, a factor in providing its warmth and an inhibitor against the accumulation of static. When crush resistance is afforded at the cost of absorption the consumer may do well to consider the relative importance of the two values.

From the practical point of view, suits, coats, and dresses are sent out periodically for cleaning or pressing. The nuisance of the transaction is about the same whether they are to be pressed or cleaned. The cost of cleaning is considerably higher than that for pressing. Wool has a natural resistance to soil. Wool surfaces tend to shed foreign materials and spillage does not soak in easily. Wool textures, colors associated with wool, and wool's subtle luster make soil less obvious. Although lightweight woolen fabrics may require more frequent pressing, they require less frequent cleaning than fabrics made with nonabsorbent fibers.

"The performance of wool has become so closely associated with certain apparel types that we sometimes assume it to be inherent in any fabric which resembles wool."

Drape; Hand; Combustion. The drape and hand of woolen and worsted fabrics are well known. Although wool can accumulate static charges under extremely dry conditions, its natural absorption of moisture serves to dissipate the static before there is a severe accumulation to interfere with the drape. Wool fabrics seldom cling to the body because of static in unpleasant and sometime embarrassing contours.

Wool does not support combustion. Wool garments are not susceptible to disfiguring marks from melted holes. The wearing of wool is not associated with hazards resulting from rapid combustion or skin burns caused by hot melted fibers adhering to the skin.

Wool fibers are tough and they are easily extensible. Shocks and destructive forces applied to local areas are quickly distributed among the fibers in the adjacent structure, and wool's resilience allows it to absorb a high magnitude of destructive forces and then return to its original form without being damaged in the process. Wool is durable.

Moths and Shrinkage. Susceptibility to moths and shrinkage under severe washing conditions have been frequently referred to as wool's weaknesses. Durable moth resistance has been perfected and less permanent moth-resistant treatments are available in most dry-cleaning establishments. The normal routines of household care give reasonable protection even when no moth-resistant treatment is applied.

Wools have been washed since wools have been worn. Dry-cleaning was developed as one step in the advance of civilization. Since dry-cleaning has become available and convenient, the burden of cleaning household clothing, with the exception of socks and more intimate female accouterments, has been transferred from the household to the service industry. For articles which must be frequently washed and are more customarily washed at home, such as sport shirts, sweaters and socks, shrink-resistant treatments have been developed. Millions of wool items have been successfully treated for the Army and resist shrinkage even in the extreme washing of the mobile Army laundry.

It is only natural that moth and shrink resistance should be featured in advertising new fibers for which moths have not yet developed an appetite and that lack wool's absorption and felting qualities. In the past, although great sums have been spent to advertise moth and shrink resistance for wool, the consumer has shown little interest. The demand has been so minor that it has failed to encourage the manufacturers to apply these treatments to any large percentage of their products. It is conceivable that such an interest may be awakened in the consumer by the advertising associated with nonabsorbent fibers. If so, the treatments are available for the manufacturer to apply.

Wool Research. Wool research is now carried on in all parts of the world. Manufacturers of wool fabrics, the chemical industry, and equipment manufacturers support programs to improve wool processing. Fundamental investigations of wool's properties are maintained in the wool growing countries, the major countries of Europe, and in the United States.

Many fundamental studies of wool are designed to find out how wool performs its function as well as it does. The chemistry of wool is extremely complex. This complexity happens to fit in with the very complex requirements we make on apparel fabrics, but it also makes it extremely difficult to elucidate completely wool's chemical arrangement.

We know what elements are included in wool's structure and most of the basic combinations of these elements, the amino acids. However, we do not yet know just how

these amino acids are arranged within the structure.

Wool's physical structure is also under scrutiny. We have known for a long time that it consists of an outer layer of scales surrounding cortical cells. These cells are really packages of finer, fiber-like units held together by a cementitious material. All of these components resemble each other chemically, though they may differ in the details of their structure.

Within the past few years we have discovered that a very thin, chemically resistant membrane lies outside the scales. Even more recently we have found that the cortical cells include two types, lying side by side throughout the length of the fiber. One type is more resistant to acids and the other more resistant to alkalies. Since these two components twist or spiral around each other in general conformance with the crimp or spiral of the fiber, it is thought that the cells have a direct influence on crimp. Investigations are underway to establish the nature of this relationship.

Research is also forward on the pigmentation in wool, its relationship with nutrition and conditions of growth and means of its control. This study includes the development of color when wool is exposed to sunlight. It may result in whiter wools, or the avoidance of color change in white wools during service.

The mechanisms of wool degradation under heat and long periods of ultra-violet exposure are also under study, as well as chemical modifications of wool. Such studies will give us information on how wool fiber properties are controlled by the chemistry of wool and how wool characteristics may be changed for greater usefulness in special types of service. In this connection, new tests are being developed to measure more of the intrinsic properties of the fiber and relate them to processing and performance characteristics.

New methods of shrinkproofing and mothproofing are being developed. Techniques for the engineering design of fabrics to utilize the fiber properties through a more perfect geometric orientation of the fibers in fabrics are being developed. New dyes, for wider ranges of color and improved combinations of the various types of fastness, are being created, as well as new dyeing processes.

The wool industry has been built around a fiber which has produced a broad range of valuable fabrics. Research is now directed towards means for producing even better and more valuable fabrics at lower costs.

Summation of Wool Properties. Wool has earned its enviable place in our wardrobes because of its whole pattern of properties and their effectiveness in the whole range of service we require. These properties may be summed up as follows:

1. A wide choice in length, diameter, and crimp characteristics which assist in providing a range of textures and constructions.

2. An extensibility which gives freedom of movement; distributes stresses; and provides unique characteristics of hand, drape, and comfort.

3. A bulking power which gives uniform porous constructions coupled with good covering power; entraps large quantities of air to provide warmth at low weight; and permits fiber adjustment to avoid local damage. This characteristic also contributes to rain repellency by the absorption of energy from the falling droplets.

4. A resilience which contributes to a wool garment's fit and wrinkle resistance; maintains the insulation value of fabrics as they are worn; provides a hairy surface even when wet to assist in repelling rain, to entrap air to increase warmth, and to give a warm feeling to the touch. This characteristic is also responsible for many texture effects and discourages soiling.

5. A high absorbency which greatly assists in the maintenance of warmth, prevents chilling on changes in activity or exposure, and reduces static. This high absorbency is uniquely coupled with high resilience.

6. A stress-strain behavior which gives crispness without harshness and contributes much to the hand and drape of the woolen and worsted fabrics.

7. A complex chemical structure with many active chemical groups which allows a wide choice in the selection of dyes to give desired balance of color values and permanence.

8. A unique felting power which provides the sole means of fiber assembly in a wide range of mechanical felts and is utilized in creating a great variety of special fabric finishes.

9. A toughness and resistance to flex fatigue as well as high energy absorption which provide long wear.

(1) Cassie, A.B.D., "Physics and Textiles;" *Physics*, X:141-171, 1946.
(2) Baxter, S. and Cassie, A.B.D., "Water Repellency of Fabrics and a New Water Repellency Test:" *Journal of Textile Institute*, 36:T67, 1945

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readily. This shows up badly on dark clothes, and because of this tendency, such items may return from the drycleaner or the laundry looking little better than when they went in.

Crease Resistance. Cotton has long been highly regarded for its crisp, freshly starched, prim appearance in clothing. Now research teams have fitted it for another, different, but equally impressive role through construction changes and chemical treatments. Although the crease resistance of cotton is not yet equal to that of wool or some of the newer synthetics, it is quite good and is improving steadily through research.

Dark cottons in heavier weaves combined with distinctly improved crease resistance treatments are being used to develop a new market — tweeds and winter cottons. Reports to the contrary notwithstanding, at least one manufacturer is producing permanently pleated cotton fabrics in which the pleats do not fall out from the effects of humidity and normal wearing.

Wear Resistance. Although laboratory tests show cotton to have high abrasion resistance, the wearing quality of cotton in actual service tests is the real proof of its durability. Probably the most extensive of such tests on record are those conducted by the Quartermaster Corps of the Army. These tests were made by soldiers in the field, crawling, climbing, passing through brush barricades, and squeezing between brick walls. The performance of cotton garments in these tests was a major factor, along with comfort and cost, in their adoption as standard field-service outer clothing for Army use.

The use of latex sizes in connection with cotton denims and other fabrics promises to improve the already highly regarded abrasion or wear resistance of cotton, and at the same time to increase markedly the fastness of dyes used on the denim.

Heat Resistance. There is no danger of melting cotton fabrics from use of too hot an iron, a dropped cigarette ember, or similar carelessness. Nor does cotton scorch as readily as other cellulosic fibers. Cotton's heat resistance can be raised to even higher levels by such chemical treatments as partial acetylation or cyanoethylation.

Not only does cotton resist scorching and melting, it retains its dimensional stability at ironing temperatures to a degree not attainable by most other fibers. While cotton will burn, it is not highly flammable except in a very few unusual constructions which are not used as outer clothing. In any case, cotton is easily flameproofed by a number of well-known flame resistance treatments.

"There is every reason to be confident that we have but scratched the surface of possible improvements and variations in cotton textiles through chemical modification and finishing."

Moth and Mildew Resistance. Cotton is naturally moth resistant. While subject to mildew attack under conditions of high moisture and warm temperatures, cotton may be made permanently mildew-resistant by partial acetylation, and fungicidal treatments provide mildew resistance with various costs and degrees of permanency.

Resistance to Soiling. While the evidence is not conclusive, it points to the conclusion that cotton soiling is no worse than that of other fibers; but because cottons are often light in color, soil has more tendency to show. Cotton has much less tendency than the hydrophobic fibers to pick up and hold tightly the discolorations arising from oil and soil pickup from the skin.

The first place winning paper in the 1954 AATCC Intersectional Contest, titled "Soiling of Fabrics in Contact with the Skin," offers as a conclusion, "For the particular fabrics studied (cotton, rayon, Dacron, nylon, acetate), cotton appears to soil less readily than nylon or Dacron, while rayon and acetate are intermediate."

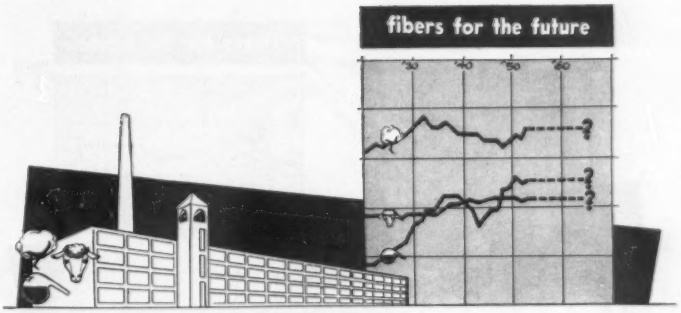
Within recent years there have been developed several different types of treatments to impart soiling resistance to cotton and other textiles. These treatments substantially reduce the tendency of the fabrics to pick up soils of various types.

Colorfastness. Textiles must be satisfactorily dyeable with a wide range of colors, and these colors must be fast under widely differing conditions of use. Cotton can be colored with vat dyes, the fastest and most serviceable known class of dyes.

Since cotton has not been subjected to the drawing process generally used in the manufacture of man-made fibers, it does not contain strains which cause uneven dye take-up. Colors on cotton may be soft, bright, strong, or deep. Properly dyed cotton textiles are free of fading from light, laundering, drycleaning, perspiration, or atmospheric influences.

Water Repellency. Despite its high absorptivity, excellent water repellent fabrics can be made from cotton. Cotton characteristically swells when wet. Therefore, it is possible to weave tightly constructed cotton fabrics with a soft twisted filling which swells quickly on contact with water. In swelling, the fabric interstices are closed and water penetration is blocked. Moreover, there are available many types of effective durable water-repellent finishes which retain their adequacy after a number of launderings.

Luster. While many varieties of cotton fiber have a high sheen, much of this is lost when the fiber is processed into fabric. Although the resulting subdued luster is desirable in many applications, there are some where a higher degree of luster is desirable. Much can be done to increase the luster of cotton. Mercerization, of course, is well-known, but this can be, and often is, supplemented by resin treatment, calendering to give a surface glazing, and surface solubilizing treatments to give highly lustrous finishes.



Research Advances in Cotton. Cotton's unique versatility and strong competitive strength in no small measure result from its inherent fiber structure. To some extent, the structure of the cotton fiber might be compared to a cable. Within the fiber, tiny fibrils are laid down in layers, spiralling around the axis of the fiber very much as individual fibers are twisted in a thread. This fine structure of cotton cannot now be duplicated in the laboratory, and it hardly seems likely that it will ever be possible for the synthetic fiber manufacturers to duplicate this marvelously intricate arrangement.

Unquestionably, the man-made fiber producers have a distinct advantage in being able to make continuous filament in a wide range of fiber diameters; but cotton enjoys an equal or perhaps even greater advantage in its nature-given interior structure.

The intense competition for textile markets which reached an acute state in the late thirties, was undoubtedly responsible for the sharp increase in research efforts by those whose principal interest lay with cotton. Although cotton was late in developing its research program, as compared with its principal competitors, the achievements in cotton research have been substantial.

The man-made fiber producers have wisely sought markets through specialization, through emphasizing one or two qualities that are peculiarly significant to particular markets. This is smart, capable operation and has proved successful in some instances. Admittedly, the successes of the synthetic fibers have aroused the cotton industry to a recognition of its need for more specialization to meet consumer requirements in certain uses, principally the industrial ones. Much progress has already been made; but "what is past is prologue" to the many splendid achievements that lie ahead.

Such scientific disciplines as chemistry and physics are at least as applicable to cotton as to the synthetics; and in applying these to cotton, the research worker has a basically superior raw material to work with. Cotton is truly as much a "science fiber" as any, for a wide variation in cotton properties can be developed through science.

Cotton cellulose is a polyhydric alcohol and is chemically highly reactive. Because the cellulose molecules are tightly packed in the fiber it has been difficult to make extensive chemical changes without destroying the fiber form. Steady progress has been made, however, in developing methods for increasing the extent and controlling the nature of chemical treatments; and there is every reason to be confident that we have but scratched the surface of possible improvements and variations in cotton textiles through chemical modification and finishing.

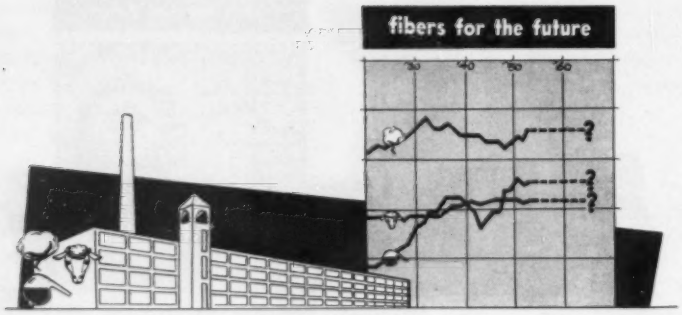
One field of science is applicable to cotton that is not applicable to the man-made fibers. This field lies in the realm of cotton breeding, where great progress has been made in cotton improvement. In the late thirties and early forties, a good quality cotton was expected to have a fiber strength of 70 to 75 thousand pounds per square inch. Today fiber strengths of 80 to 90 thousand pounds per square inch are common. Meanwhile, there are in the breeding blocks experimental cottons with strengths of 125 to 135 thousand pounds per square inch. These will become available when certain agronomic properties, particularly yield, have been improved to the needed level.

In the 10-year period 1941 to 1951 the average length of cotton fibers was increased 1/16 of an inch. While this increase seems small, it is highly significant in use value.

In the Southwest a new variety of extra long staple has been developed which, in the experience of spinners, has proved to be equal in every respect to Egyptian Karnak. Yet this new variety gives such a greatly increased yield, on the order of 50%, and is of so much better adaptability to modern farming methods, as to permit a reduction in price that will make it directly competitive with the Egyptian grown cotton. On the record, we can look for steady and consistent improvement in the strength, grade, and consistently high quality of American cottons at increasingly competitive prices.

In competition between fibers, the prerequisite for success is good performance at a reasonable cost. Cotton has always offered high performance at low cost, but the opportunities for advancement in this direction are great. Yields per acre have climbed steadily over the years. The nine year moving average yield of cotton per acre has increased from 159.2 pounds in 1920 to 283.5 in 1950. Yields in the years 1953 and 1954 were 324.2 and 313.5 (estimated) respectively, and there is reason to expect that yields will continue to exceed 300 pounds in the future.

Manpower requirements per acre of cotton produced have been cut some 80% in limited areas through full mechanization. Just in the last few years there is a growing awareness of the importance of irrigation in the rain belt to increase yields and to insure against crop failure. While no one knows what the effect of irrigation will be, an average increase over the years may easily be on the order of 50%. Irrigation alone promises tremendous reductions in costs of growing cotton.



Too often we hear that growing population and increasing per capita consumption of fibers must inevitably cause us to reach the limit of our capacity to produce natural fibers. Such an assumption reveals a naive underestimate of the capabilities and capacities of American cotton growers.

Great as have been the increases in yields per acre during the last half century, improvements in the next half century have every promise of being substantially greater through irrigation, fertilization, and improved cultural practices. Insects today take about 1/7 of the cotton crop, while plant diseases take another huge bite. Control of these two items alone offers a tremendous increase in cotton production.

Meanwhile, cotton farmers have demonstrated their ability to expand production rapidly. In 1950 a fiber shortage threatened because of the combination of greatly reduced acreage under government control, unfavorable growing conditions, and high offtake because of military purchases for the Korean War. In response to the government's plea for the maximum production the following year, the cotton farmers increased their output from 10 million bales in 1950 to over 15 million bales in 1951.

No other source of fibers could possibly have responded so quickly and so adequately as did the cotton producers in this crisis. While the maximum production of which American cotton farmers are capable may not be unlimited, certainly there is every reason for confidence in cotton's ability to meet any foreseeable need.

The Future. On the evidence, it is hard to see anything but a bright future for cotton. With a proved record of performance and of improvement through science, and the promise of even greater progress to come, cotton is today in a stronger competitive status than it has enjoyed since man-made fibers first appeared in the market.

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YES, YOU CAN DO IT---

Slash Reworkable Waste!

By M. R. Harden
EXCLUSIVE

COTTON mill waste may be generally classified into three categories: reworkable waste, sale waste, and invisible waste. With the relatively high cost of raw materials, overhead, labor, and supplies, a great deal of attention has been devoted to the reduction of all kinds of waste, but it is a never ending program and one which none of us can afford to let up on.

While most of our waste reduction programs and efforts have been devoted to salable waste, the wastes in the reworkable classification have not received due attention. Some of us are prone to be satisfied with the matter of saving this waste for reclamation *after* it has been made, not stopping to realize that it is never as good upon rerunning, and that it costs money to bring it back through the machines again.

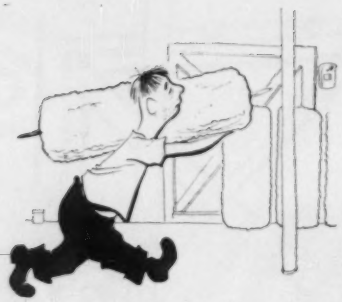
The so-called invisible waste, or that which goes off in the air, out dust flues, in air conditioning washers or in some manner is lost forever to the manufacturer, can be reduced in such ways as spraying the cotton with oil, keeping many openings closed, maintaining good relative humidity, etc.

This article will be devoted to the various causes of reworkable waste, the "cure," and the methods employed to handle this waste most profitably.

Some of the Causes. The causes of reworkable wastes are many and vary somewhat from plant to plant. The cotton used, the plant equipment, the yarns

TAKE IT EASY! Careless handling of laps, causes waste. Don't stand laps on end.

DROP THAT KNIFE! Don't cut roving from bobbins—twist it over the end.



HOW TO TEAR UP LAPS: Let operatives carry them around on their shoulders. This is most effective in hot weather.

manufactured, and many other things have their influence.

The selection of the right cotton for the best performance is one prerequisite. It is not necessary, or profitable, to buy cotton of higher grade, better staple, and finer character than is customarily used in the fabrics or yarns to be produced, but once the desirable cotton is selected careful sampling and examination of each bale and shipment must be done to insure matching of blends and continued quality production. If there is a physical testing laboratory available it can help immeasurably in both the determination of the cotton for purchasing and the results obtained from its use. (Even the small mill cannot afford to be without these facilities today.)

Sometimes there will be an increase in the number of ends down and a sharp increase in lap-ups without any apparent cause. Investigation will often show this to be caused by mixed staple, packed bales, gin cut cotton, or some character change. This often occurs at the change of the cotton seasons for which new adjustments must be made. During the past year, due to the dry season there has been an excessive amount of "honey dew" in certain areas. This causes the cotton to lick up around the spinning rollers and increases the amount of waste.

Atmospheric conditions have a decided effect upon the waste produced. High temperatures, sudden changes, and improper relative humidity all play a part.

Work Assignments. Work assignments should be carefully studied and the proper assignment data kept available for each number. Any good management wants each operator to have a good assignment but it is obvious that an error in this regard will produce bad results.

For example, if a spinner is unable to reach a spindle within a reasonable time after an end comes down it will lap up and soon tear down other ends. This will not only

DON'T LET END of run-out lap touch the floor.

increase the amount of waste but adversely affect the quality of the yarns. Of course, where the Pneumafil system is used some of this may be avoided, but the quantity of waste may be high due to neglect on the part of the operators to get the ends up promptly.

Loose Cotton and Laps. There is a certain amount of cotton that may be dropped on the floor around the opening and cleaning machinery which may be picked up, or swept up, by the operators of these machines. The reclaiming of this waste is relatively simple and not too costly, inasmuch as it is promptly reclaimed at the point of origin. On the other hand, a careful operator can often prevent some of this, and it can also be said that this cotton is never in quite as good condition once it has been walked over and rolled about on the opening room floor.

The first point of real consequence is the finished lap. If lap weights are varying outside the standard tolerances they have to be rerun. Good carders watch the lap weight reports very closely, and if a machine has too many "set-backs" it is operating unprofitably. It should be a "standing rule" that any picker which develops this irregularity in finished lap weight must be stopped and the fixer given an opportunity to check the evener motion, feed, drafts, or whatever is wrong, and fix it before the machine is put back into operation.

The handling of finished laps also has an effect on the amount of cotton which must be rerun. Some of the things to avoid here are:

1. *Excessive Handling:* If laps are stood on end on the floor or platform, and then have to be handled again when loaded for transportation to the cards, they are usually damaged and one or more layers may have to be rolled off and rerun. Laps should be placed directly on the lap conveyer, or lap trucks, after weighing.

Lap trucks should be so constructed as to support each lap individually so that laps will not rub together and tear up the outer layers.

After doffing, the lap should not have to be carried any distance. If the operator places the lap on his shoulder it will usually be rubbed and torn to some extent, especially in warm weather when there may be a lot of perspiration on his hands and clothing.

2. *Strong Air Drafts:* In transporting laps through doorways, hall ways, or similar places, strong air currents often damage them. Automatic doors should be provided and other means of air intake should be arranged to avoid this condition. Some mills use a heavy paper sleeve held in place by an elastic tape over their laps. These may be used over and over.

3. *Shortage of Lap Pins:* There should always be plenty of good straight lap pins of uniform weight available. Pins should never be removed from laps but rather should stay in them until the laps are run out at the card.

Card Tenders Have a Part. The card tender can prevent a lot of

waste by exercising care in lapping. In preparation for laying new laps he should never roll off enough lap on the run-out lap to allow the end to touch the floor.

In laying the new lap he should splice the two ends together over the feed plate so as to leave no open spaces where the laps are spliced. He should also try to avoid laying a double lap thickness in some spots. If the run-out lap was started smoothly at the picker and the newly laid lap has not been damaged, it will not be necessary to tear off any cotton for reworking.

The saving of card sliver is also largely a matter of good training of the card tender and the care exercised in watching his waste and piecing up. The floor under the doffer comb should be kept clean at all times. The sliver will drop down and accumulate there before the end can be put up, and this is good cotton. It should therefore not be contaminated by sweepings, fly, and trash. Some of this good cotton is often lost (for reworking) by becoming mixed with the sweepings. The importance of keeping this separated and clean should be stressed to card tenders, sweepers, and strippers.

Preventing Roll Damage Saves in Two Ways. There are many ways in which the drawing tender, slubber tender, and spinner can reduce the amount of roll lap waste and scavenger roll waste. One means which (on the face of it) may appear to be rather insignificant, but is very important is this: never use a knife, hard steel lap hook, or or any similar instrument for the removal of a lap around a steel roll. The roll will be scratched or marred and this will cause the same end to lick up and wind around the roll at this same point over and over again.

Lap hooks may be made from 3/16″ brass rods and are very inexpensive. They may also be purchased from several leading textile supply firms at a nominal price. This should be a standard supply item in the central storehouse and never allowed to run out of stock.

Creeling. It is considered best practice by many mills to creel all the cans at a drawing frame or a slubber at one time, rather than one by one as the sliver runs out. This requires the practice commonly known as "dumping." This means that the small amounts of sliver remaining in the bottom of the cans are spliced together and combined in a single can for the next run. (On some numbers it is best practice to creel half a frame at a time.) This is a great waste saver as well as a time saver.

Full can knock-offs, which operate from the hank clocks, are very helpful, especially on the finisher drawings, if two drawing processes are used. If one process is used they should be on all drawings.

A Well Built Roving Bobbin Helps. The maintenance of proper tension, lay, and tapes will prevent much roving waste. If the bobbin is loosely wound and the taper is too short the wraps near the carriage change points will fall over the ends and the result is a tangled bobbin, which has to be pulled off and put into waste.

This is further aggravated by a crowded lay. Bad bobbin butts, or jumping bobbin gears, also frequently cause this trouble to occur. Periodically, all roving bobbins should be gauged and checked for defects. The frame fixer should watch these things very closely and make prompt corrections.

THAT KNIFE AGAIN! Don't use it to remove lap-ups from steel rolls — use a brass lap hook.

Save Bobbins - Save Waste. Employees should never be allowed to use a knife or razor blade to cut roving from bobbins. This is a poor practice, which damages the "waste" and invariably cuts the bobbins and makes it increasingly difficult to remove the waste by twisting it off over the end of the bobbin. If the practice is never allowed to get started, most roving pieces can be slipped off the bobbin by a twisting and pushing motion, with which all good spinners and frame tenders are familiar.

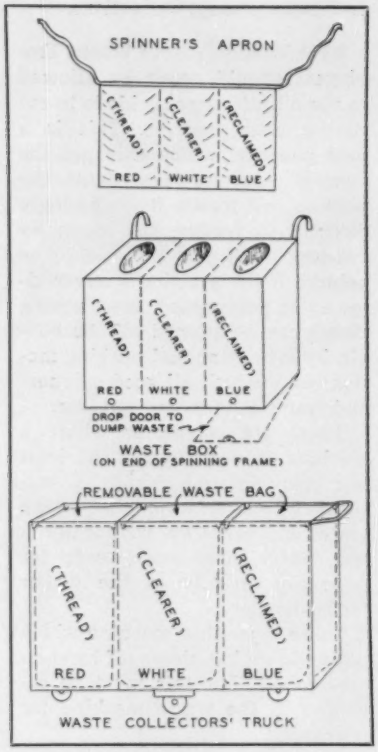
There are conditions where a machine is very useful. At least one manufacturer makes a machine which removes the roving pieces and cards the roving into a soft, fluffy, fiber mass, ready for returning directly to the picker feeder hoppers.

There is another machine which pulls the roving pieces off by compressed air, but this must be returned to the waste machine for reworking.

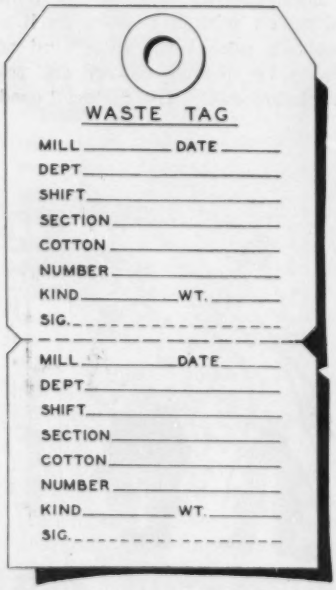
Keeping Waste Separated. Located on the head end of each spinning frame just above the gear access doors we have a small waste box. This is divided into three sections, each section having a hinged drop door at the bottom.

Each spinner is provided with an apron with 3 pockets in it, a separate pocket for each kind of waste, i.e., thread, clearer, and reworkable waste. The material used

MATCHES + WASTE = WASTE MACHINE FIRE. Operatives should be cautioned not to carry matches in their pockets.



THESE MILL-MADE AIDS help keep spinning waste separated.



WASTE TAG provides a permanent day-to-day record of efficiency of waste control procedures.

for making these aprons is in three colors. These correspond with the colors of enamel used on the waste boxes. The waste collector's truck is likewise made with three compartments, and corresponding paint colors are used on the waste truck for identification. Smooth, rounded cup hooks are used inside each truck compartment, near the top openings, to hold a removable waste bag.

The apron which the spinner uses enables her to keep separate the three kinds of waste from the spinning operation. The three compartments in the waste box at the head of each frame enable the spinner to deposit her waste correctly at a convenient place as she moves from one aisle to another.

The waste collector simply pushes his truck underneath this waste box and by pressing a button on the release latch at the bottom of each compartment dumps the contents directly into the proper waste bag. By using bag-inserts the waste does not have to be rehandled. Simply lift each bag out, tag, weigh, and deposit it in the designated place.

It is obvious that this, or some good method, should be employed in every mill to keep these wastes separate, since mixing will adversely affect the value of the salable wastes. If the reworkable waste is dropped on the floor or mixed with other wastes it becomes a direct manufacturing raw material loss.

It is also well to remember that the further along in the manufacturing process that waste occurs the more expensive the loss, because it has cost more money to process it to that point in the first instance, though it might be reclaimed. It should also be remembered that rerunning (the additional beating and drafting) does harm the stock to some extent.

Keeping the Record. In order to have successful control of waste, accurate records must be kept; and, moreover, *used*. A plan of waste tags and reports may be worked out to suit each mill's use, but there is certain information that must be recorded, i.e., mill, date, department, shift, section, cotton, numbers (or style), kind, and weight.

The stub from this tag providing duplicate information should be turned in to the office where a permanent day to day record is made. White tags may be used for sale wastes and a colored tag for the reworkable wastes.

This information shows the trend and is available for daily guidance in waste control.

Reworking. It is unnecessary to return certain types of reworkable waste to the waste machine (or conditioner). These are lap waste, card waste, and sliver. Such wastes may be torn up and fed directly into the waste hopper feeder. Wastes such as roving and scavenger roll waste must be torn up and the fibers carded out before they are fed back into the stock.

There are several types of waste machines with slightly different beaters, lags, etc., but most of them accomplish about the same results. These machines usually consist of the following principal parts: an extended feed table and slatted apron, feed rolls, spiked beater or lagged drum, screen, stripping rolls and slatted delivery apron. The sizes of spikes, the speed of the beater, pounds fed, etc., must be determined by each mill in order to prepare the waste as desired.

Prevention of Fires. Considerable loss of production, material and equipment may occur in waste reclamation unless some precautionary measures are taken. Here are some of the steps which may be taken to prevent fires and to control them if, and when, they occur.

1. The air from the waste machine fans should never be discharged into the filter room, dust room, or dust stack, where the picker or opening room air is discharged. There is usually greater likelihood of a fire occurring in the waste machine, therefore a completely fireproof masonry enclosure should be provided in the dust room for the waste machine. It does not have to be very large (usually a space of 7 to 8 hundred cubic feet is sufficient).

2. It is best to separate the waste machine from opening, cleaning

and picking machinery by a fireproof wall and a regulation fire door. Inside windows may be used for light if desired. Several good fire extinguishers and a small fire hose should be available.

In addition to the regular sprinklers, a fog-type sprinkler with deflector should be located just a few inches above the delivery apron of the waste machine and a regular head should be in the top of the screen casing.

3. A permanent magnet located between the feed table and the feed apron, before the waste enters the machine, has proved quite beneficial. This often picks up any bits of metal which might start a fire if struck by the beater.

4. Probably the greatest single cause of fires in the waste machine is matches. Despite admonishment not to do so, doffers, spinners and frame tenders sometimes carry unsafe loose matches in their pockets. In the performance of their work they may put reworkable waste into their pockets on top of these matches. Later the waste is removed and placed into the waste box or roving can, carrying the matches along with it.

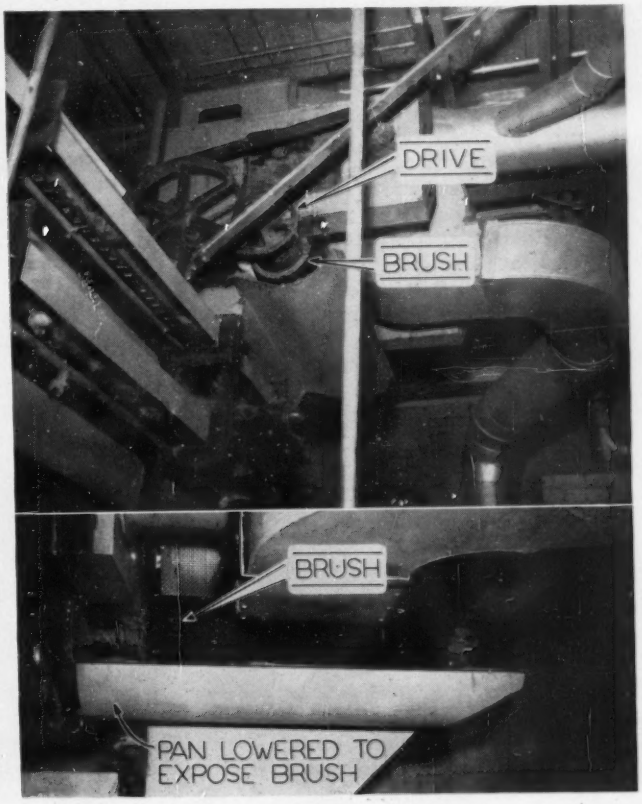
In addition to cautioning employees frequently about this unsafe practice, other precautionary measures have been instituted. Many mills now provide safe smoking areas within the plant, one for each department. It pays to put a metal box with a hinged cover in each smoking area and keep it filled with book safety matches. This service to employees is relatively inexpensive and leaves no excuse for them carrying unsafe matches in their pockets.

Brush Cleans Condenser; Eliminates Hand Cleaning

A brush mounted adjacent to the condenser keeps condenser clean on line from opening which feeds picker line. Formerly it was necessary to hand clean the condenser screen at least once each week.

This method has been in use several years at Gastonia Combed Yarn Corp., and has given no trouble.

The screen and brush are hand cleaned only when other maintenance work is required or when trouble develops. The drive is simple; it is a belt driven power take-off from an existing shaft (see accompanying illustrations). Drive is from wood roll shaft on which a small pulley is installed.



Reclaiming Flat Strips. The flat strippings are usually sold to the waste trade but many plants have found them very useful and profitable, either made into a manufactured by-product or run back directly into their normal production. In the coarser fabrics (and not necessarily "cheap" ones) the flat strips are fed into the picker hopper feeders by means of a slowly driven waste feeder, or blended as one end of sliver at the breaker drawing.

One plant that we know of has developed a rather ingenious method of making laps of their strips, bringing them back through the card, but instead of making them into sliver returns them by a suction system to the waste feeder hopper in the picker room. A metal chute is attached to the card underneath the doffer comb to collect the web as it drops from the doffer.

As by-products, many mills make twine, plant bed cloth, coarse bagging, and many very acceptable drapery and decorative materials from their flat strippings. There are a great many such by-products which have come into wide use and many more are being developed today. The selling houses have been quite helpful in finding outlets for these products, which has proved profitable to the mills.

The Man in the

Staff Prepared

EXCLUSIVE

UNTIL two and a half years ago, the Juniata, Pa., mill of the Schwarzenbach Huber Co. was equipped for and geared to the manufacture of a standard range of filament grey goods which included 180 x 60's, 300 deniers, and dobby variations of these acetate taffetas. The 250-loom unit had not run yarn dyed goods since before World War II, although the Columbia and Front Royal mills of the company maintained production on skein dyed silk taffetas.

When the Tennessee Eastman Co. introduced its first line of seven Chromspun colors, permitting the weaving of colored yarn fabrics on high speed systems, it logically developed that the Juniata plant was assigned to adopt these solution-dyed man-made yarns to its taffetas.

The Schwarzenbach management, through its experience with silk taffetas, knew what problems normally arise when different warp and filling colors were combined in taffetas. The construction is sensitive to many types of defects, particularly so in light colored and irridescent effects. The company found itself, however, faced with a major development project both from the standpoint of quality and production control when dope-dyed taffetas were introduced in the Juniata plant.

Effects of the Change. At first, about six denier and color varieties of yarn were used in a total of five or six styles. While scheduling and bookkeeping became more complex compared with the minimum variations in raw material and styles when the mill was running on grey goods, technical difficulties were minimized at the start of the new weaving program by cautious limitation of color combinations to dark and medium shades woven with the same color in warp and filling; irridescent effects and light colors were avoided.

With color lines and available deniers in color increasing rapidly however, plus the fact that there was a market demand for broadened style types, Schwarzenbach's solution-dyed program expanded quickly to the point where three deniers were being used: 75, 150 and bulked 350.

In all, a 19-color line was used in irridescent effects. This multiplied to as many as 40 color combinations on a single style with about eight styles being run in the mill.

This growth created problems that required several revisions in the original grey goods weaving set-up at Juniata. Most important of these changed conditions are:

1. Where one lot of grey acetate yarn was previously delivered to the mill, about 10 smaller colored lots are received, requiring adjusted and increased record keeping and different materials handling techniques.

2. Where only raw yarn was previously run in a style, that same style, in many color combinations, now requires treatment as several styles; for record-keeping purposes, each color combination is a different style.

3. Scheduling production of grey warps, even if there were several qualities, was simple; with many warp variables now common in the mill, i.e. color, denier, and sley, flexibility is considerably reduced.

4. Since the bulk of the dope-dyed goods being produced is loom finished, slashing has to be done so that whatever character it gives to the cloth is acceptable to the consumer.

5. Irridescents are now commonly run in the plant; their extreme sensitivity to all defects requires expanded measures of quality control.

6. Light colors make up many of the styles now run; the ease with which they are soiled plus the fact that the goods are not scoured requires increased attention to cleanliness.

While all of these factors are interdependent in the successful Chromspun weaving operation that was developed at Juniata, only the system installed on the production floor is considered here. This includes the control of the proper technical operation and maintenance of slashing, quilling, weaving, and inspecting departments.

Slashing

Problems. Since the major part of the new taffetas planned for weaving at Juniata were to be loom finished, making a good warp involved a new set of requirements; the gelatin size formulas previously used for grey goods were no longer applicable.

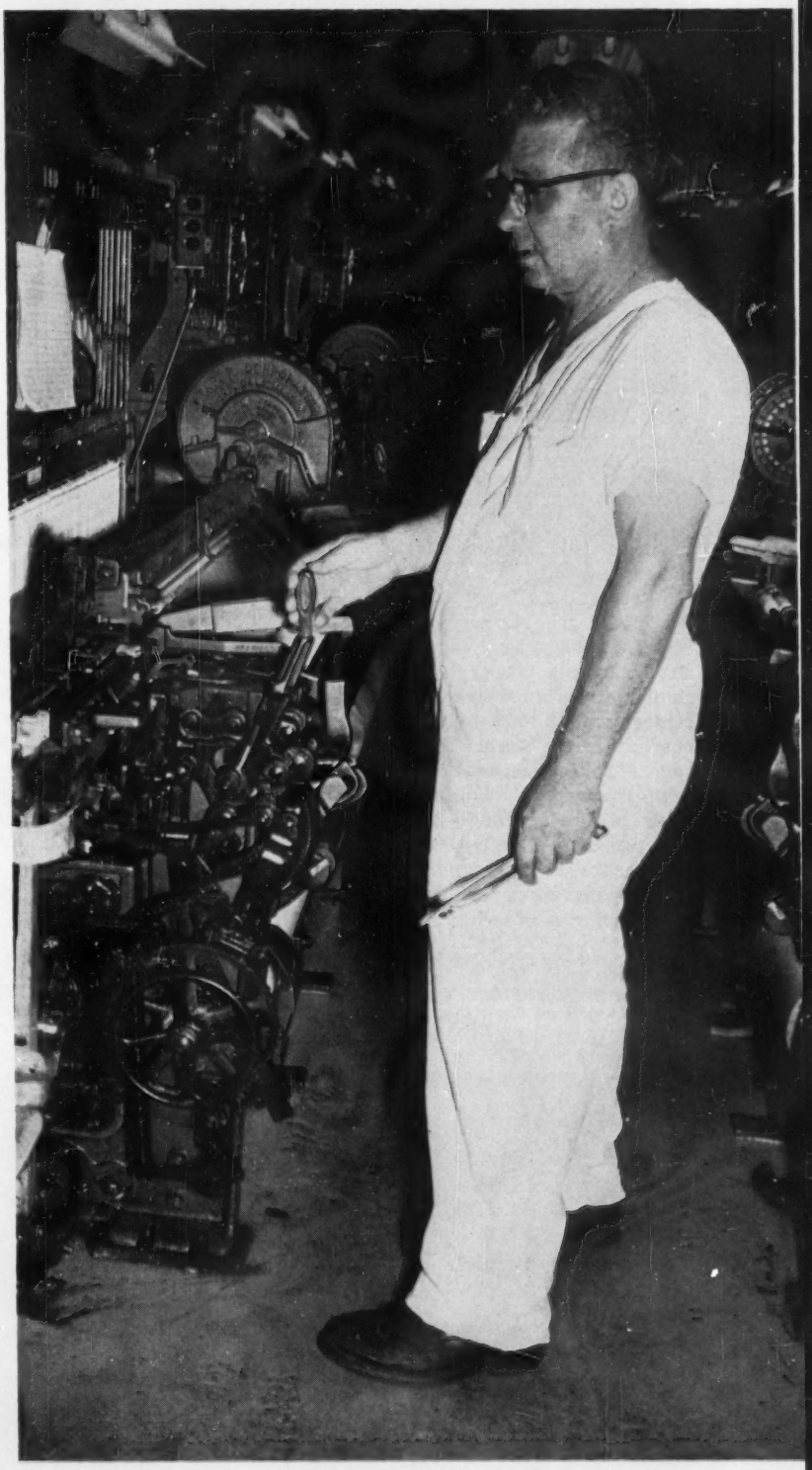
These new requirements included selection of a sizing formula that would not deteriorate with use and aging of the woven goods; there would be no boil-off or finishing to remove size. Also, the size could not lend an unpleasant odor or harsh feel to the fabric. Water spotting, which is the migration of lubricant on yarns when drops of liquid fall on the goods, and mark-off, which is crocking to lighter colors within the same fabric, were also to be avoided. Finally, the size could not yellow with age, dissolve in water, or oil stain or "scum-up" in the size pan of the slasher.

A conflicting requirement, further complicated by the tendency of taffetas to form tear drops or become overbeaten if sized too heavily, was that stiffness due to oversizing had to be avoided but still the warp required sufficient strengthening to allow high speed, high efficiency weaving.

Selection of Size Formula. Satisfying the requirements of slashing Chromspun warps was accom-

White Suit

THIS MAN IS A LOOMFIXER at Schwarzenbach Huber Co. He personifies cleanliness throughout the mill. A fresh coverall is provided for him three times a week. The White Suit is worn by all maintenance men.



Mill-wide cleanliness campaign, proper size formulation makes possible successful solution-dyed taffeta weaving at the Juniata mill of Schwarzenbach Huber Company

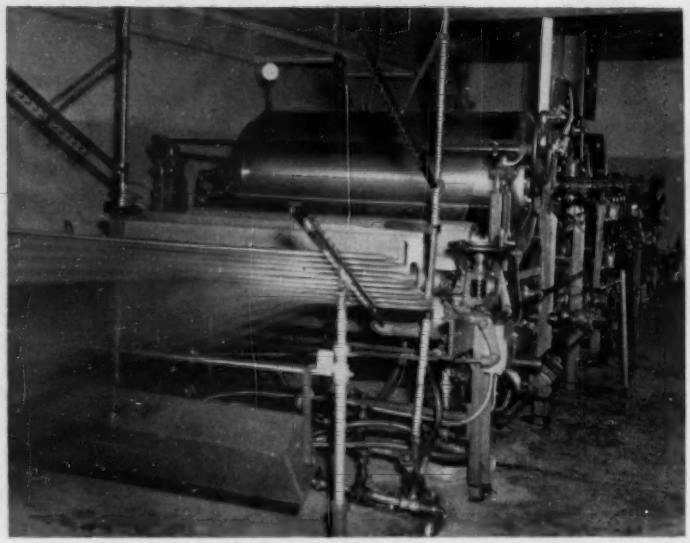
plished through the combined efforts of the Du Pont Co. and Schwarzenbach.

The sizing material adopted was a resin closely related to polyvinyl alcohol. Trade named Elchem, this compound supplied the stability required, and further development allowed for simplicity of application through dissolving the resin in ammonium hydroxide, which evaporated after slashing, leaving a water-insoluble coating on the yarns. In order to produce a pleasant hand, plasticizers were added. In trial stages, these ranged from glycerine-oil types to urea. Colloid 216 was finally selected as the plasticizer.

Generally, the size formula now in use for Schwarzenbach Chromspuns is:

For 100 gallon mix—
- 60 lb Elchem
- 12 lb Colloid 216
- 6 lb ammonia

Formulation varies according to requirements; taffetas for example may be slashed to produce anywhere from a crisp to a soft, silky hand, depending on market demands. Since slashing procedures are a function of denier, color, and woven construction, each different fabric must be treated separately at Juniata. Generally, the strength



SIZE PAN OF SLASHER is cleaned before each white or light colored run. Brackets for immersion rolls have been changed from bronze to stainless steel, to minimize black salt formation.

of the formula is reduced as denier increases.

A current slashing problem at Juniata that is almost completely solved, is the tendency of the resin size to form a black, smooth salt similar to printers ink when in contact with bronze brackets and bearings of the slasher immersion rolls. The bronze brackets have been changed to stainless steel; trials are being made with the bearings, since stainless steel is too hard for these bearings.

Size pans are wiped down before each run of white or light colored warps to prevent warp staining.

Cleanliness

Soiling. Anyone who touches yarns intended for loom finished goods is a potential source of a soil mark in the cloth; for the most part these soils cannot be removed. In addition, atmospheric dust settling down on yarn, warps, or cloth adds to the problem of keeping the goods, particularly light colors, clean.

In the case where dirt or dust settles on moving parts, it can be shaken onto yarn or cloth, causing soiling. Another such dirt source is in warp size shedding onto moving yarns.

At the loom, repair of an end breakage can easily cause a dirt streak, since knots tend to pick up dirt when moving through drop wires, heddles, and reed.

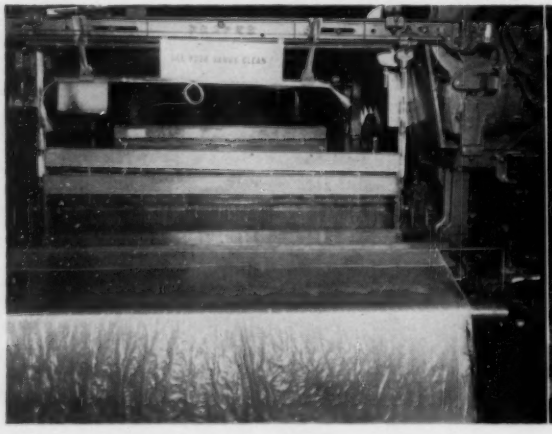
The Cleanliness Program. The precautions taken to avoid the sources of soiling are an outstanding feature at Juniata.

Maintenance personnel, such as loomfixers, are constantly in contact with grease and can be a frequent source of soiling when they touch or brush by yarn and cloth in process. These men are provided with white coveralls by the company. Fresh changes are supplied each man three times a week. Not only does this minimize soiling caused by contact of greasy clothing with warps, but it provides a psychological effect of neatness which is taken as an example by the entire mill.

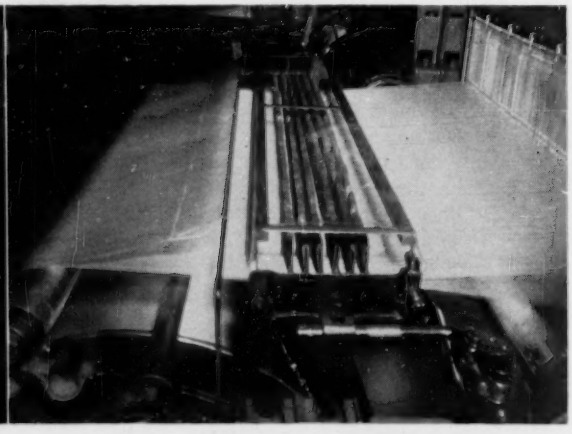
The quilling department, equipped with Whitin-Schweiter machines, is regularly vacuum cleaned to remove the possibility of contaminating filling yarns with dust and lint; each spindle is separated from the next one by a sheet metal divider.

At the loom, several innovations have been installed to provide maximum protection from soiling. A reminder to anyone preparing to touch yarn, warp, or cloth hangs

PLIABLE PLASTIC BEAM GUARD is hung to protect warp from dust. It starts at the drop wires and reaches to the floor. Note sign to remind of clean hands and plastic spare-end tube.



DROP WIRES are encased on 3 sides by a removable frame covered with polyethylene sheeting. Dust falling into drop wires is shaken into or rubbed on warps.



from the arch connection; it's a cardboard sign printed on both sides with the question, "Are Your Hands Clean?"

Looms are equipped with a number of clear plastic dust guards. Mounted warps are covered from drop wires to the floor by a pliable plastic sheet (see TEXTILE INDUSTRIES for March 1954, p. 129). The drop wires are completely encased by a three-sided, removable hood of clear polyethylene sheeting. This enclosure was made to eliminate soiling from dirt and dust settling down onto the drop wires and being either shaken into or rubbed off on the warp.

The polyethylene sheeting is also used at the front of the loom; it starts at the breast beam cover and protects the goods passing around guide rolls, pressure rolls, and spreader rolls but does not cover the cloth roll.

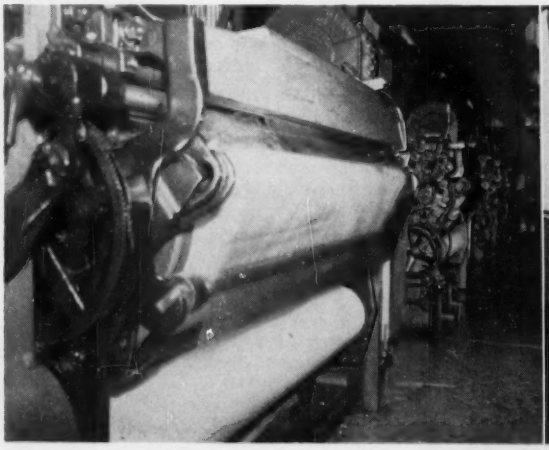
Spare ends lie horizontally and are enclosed in a transparent tube which hangs from the arch connections.

The overhead loom parts, which can shake dust into warps, have been also protected. A cotton curtain was originally stretched across and beneath the arch connections so that harness sheaves and cords were cut off as much as possible from the warp. The position of the sheaves, however, required puncturing the curtain for passage of the cords to the harness.

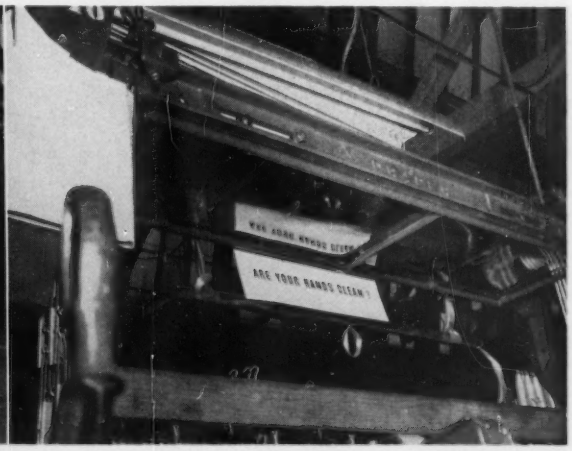
The new set-up provides complete protection. Sheaves were moved outward toward arch ends and harness cords connected to harness hooks were secured to the ends of the top bar of the harness frame. This positioned the sheaves so that neither they nor the cord which passes around them are above the direct path of the warp. The curtain was replaced with a sheet of the polyethylene, which is fitted snugly up against the bottoms of the arch connections. In

QUILLERS are vacuum cleaned regularly. Thread guides are a frequent source of dust and lint and are checked often. Note sheet metal guards between spindles to prevent contamination.

LOOM FRONTS are protected from dust and dirt transfers by this polyethylene sheeting which starts at the breast beam cover and extends to the cloth roll.



SOILING FROM OVERHEAD is prevented by polyethylene sheeting attached to the under side of the arch connectors. Note that harness sheaves and cords have been repositioned.



Growing Market for Denims and Tufting Yarns

Fancy denims, cotton blankets, and tufting yarns consumed almost one-half million bales of cotton in 1953 as shown in the following tabulation:

Product	Cotton Consumption (1,000 bales)
Fancy denims	166
Cotton blankets	79
Tufting yarns	237
Total	482

Card strips and comber noils are blended in varying proportions with raw cotton in tufting yarns and have been included in the tabulation above.

Fancy denims were manufactured from cottons averaging from Strict Low Middling to Middling in grade and about 1 inch in staple length. Production of these fabrics has increased each year since the end of World War II, from 6 million pounds in 1945 to 73 million pounds in 1953. Demand for the durable, washable denims, particularly in sports wear, children's wear, and women's suits and dresses, has been stimulated by the bright colors and smart styles made available by cotton manufacturers. These fabrics provide a prospective market outlet for 200,000 bales of cotton.

Cotton blanket yarns are made from separate warp and filling mixes. For the warp yarns, where strength is needed, cottons averaging one inch in staple length, and Low Middling to Strict Low Middling in grade were used. The soft-twisted, napped filling yarns were spun from 7/8-inch cottons, Strict Low Middling to Middling in grade.

Cotton blankets appear to constitute a rather stable market outlet for cotton. Consumption of cotton in this product, which amounted to 79,000 bales in 1953, has ranged during the past ten years from a low of 65,000 bales in 1949 to a high of 100,000 bales in 1944. Although little expansion of the existing market is likely, cotton's advantages of launderability and economy should enable it to maintain its position in lightweight and crib blankets.

Tufting yarns are made from cottons ranging in grade from Strict Low Middling Spotted to Strict Middling, and in staple length from 7/8 inch to 1-3/32 inches.

Card strips and comber noils are sometimes blended with raw cotton. The card strips used were found to be about equal in quality to the raw cotton except that they were coarser and less uniform in fiber length; the comber noils were finer, considerably shorter, and much more variable in fiber length than the raw cotton.

Fiber strength was approximately equal for the three

this way the guard above the warp is continuous and un-punctured.

Filling yarns prepared in advance for weaving orders are stored in five-shelved trucks and covered with pliable plastic sheets. This protects quills from dust.

For the job of keeping hands clean, several things have been provided at Juniata. Wiping cloths and powder bags are available to weavers; wash-up fountains and towel racks have been placed right on the weave room floor. Inspectors have been provided with paper towel dispensers which are attached to the left side of each inspecting frame.

Other Check Points

The peculiar nature of taffetas combined with the use of Chromspun yarns to weave them created other problems.

Colors, particularly contrasting colors within the fabric such as in the case of a dark warp with a light filling, tend to accentuate a variety of defects in taffetas. Such general imperfections as broken picks, broken filaments, skips, set marks, slack picks, ends out, etc., appear as much more serious defects in these cases. Education of weavers and loom fixers to be more attentive to the prevention of such

←
SOILING OF FILLING is prevented by hanging pliable plastic sheets over five-shelved trucks which hold quill boards prepared in advance.

types of fibers.

Production of tufting yarns increased from 12 million pounds in 1942 to an estimated 93 million pounds in 1953. Cotton used in these yarns in 1953 was equivalent to one quarter million bales.

Large quantities of duck and sheeting are used also by the industry as backing for the face yarns. Cotton tufted bedspreads and rugs have become increasingly popular in recent years. A growing acceptance of the appropriateness of cotton rugs as home furnishings has made available a large potential market outlet for cotton. Some retail stores estimated that in the first half of 1950, 20 per cent of their sales of soft-surface floor coverings were cotton.

Market outlets for tufted textile products are expanding; consumption of cotton in tufting yarns alone shows prospects of reaching 300,000 to 400,000 bales a year.

From "Market Outlets for Cotton in Some of the Principal Cotton Fabrics," Supplement III, published by United States Department of Agriculture, Agricultural Marketing Service, Market Organization and Costs Branch, Washington, D. C.

Full-Fashioned Knitter Drive Has No Electronic Tubes

The amplistat regulated speed variator is a new contender as a drive for full-fashioned hosiery knitting machines, R. E. Parker, textile application engineer of General Electric Co., told those attending a recent textile electrical conference sponsored by the Middle Eastern District of the American Institute of Electrical Engineers.

This drive with its conventional motor generator set using a static regulator containing no electronic tubes should appeal to many mills, Mr. Parker predicted.

It has proved to give comparable performance with other drives for hosiery machines such as the all electronic drive and the electronically controlled motor generator set. Greater reliability and lower maintenance are results expected from this new drive.

A magnetic amplifier consisting of a saturable reactor and metallic rectifiers, the amplistat is used in the hosiery machine drive to regulate generator voltage. By regulating generator voltage and compensating for voltage drops due to load, it is possible to maintain the speed of the drive motor very close to the desired value regardless of external disturbances.

As soon as this drive is commercially available, announcement will be made by General Electric.

defects was important at Juniata.

For example, if reeds are not perfect, dents out of alignment will show up readily in the taffeta goods as reed-marks; reeds are checked carefully and often. Where it is normal procedure to clean reeds on the loom, after several cuts have been doffed from a warp, Schwarzenbach's Juniata mill has adopted a procedure of reed cleaning after each cut.

CLEAN HANDS are a must at Juniata. Wash-up stands, towels, wipe cloths, and powder bags are readily accessible to weavers, fixers, and cloth boys.

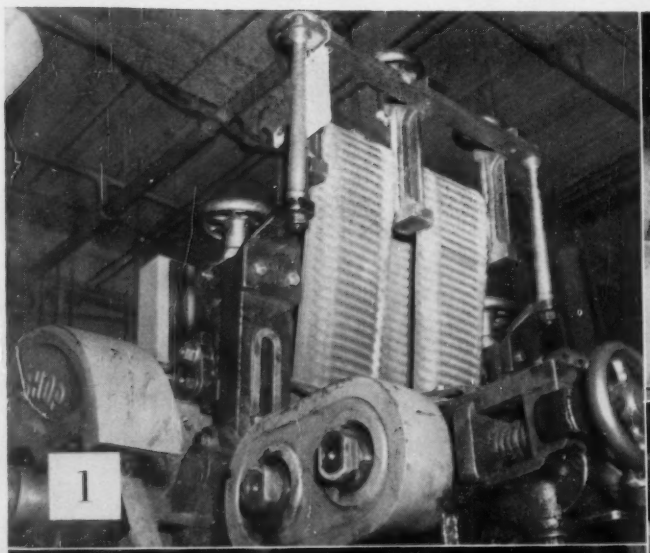
PAPER TOWELS are at the side of each inspecting frame; handling of cloth by inspectors makes soiling prevention important at this point.

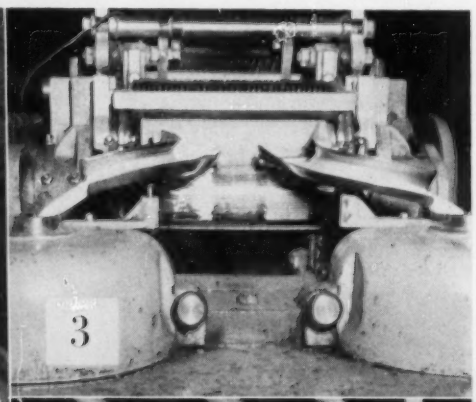
At Abbot Worsted

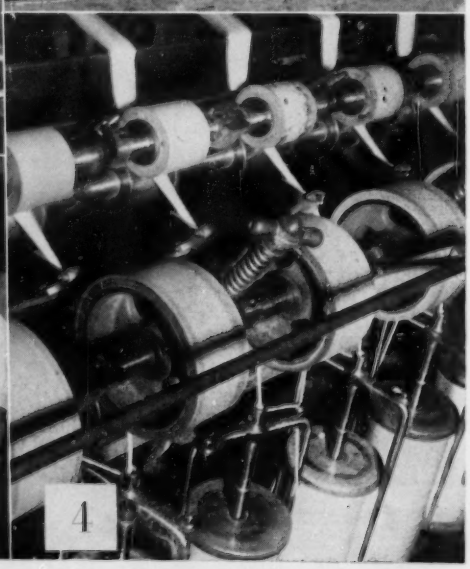
Section

EVENNESS TESTING is performed on sample of sliver by the section man, after he has doffed the sample and stopped the machine. Saco-Lowell tester is in drawing department.

SECTION MAN makes journal entries from test graph. Unusual graph pattern repeats and high unevenness will start him searching for trouble at the machine.







Company's Lowell, Mass., plant

Men Control Quality

Staff Prepared

EXCLUSIVE

THE SECTION men responsible for maintenance of intersecting can gilling, gill reducing, reducing, and roving equipment at the Lowell, Mass., "American" and Bradford spinning unit of Abbot Worsted Co. have been given the key to control over drawing department quality through evenness testing and test evaluations performed on the production floor.

Floor vs. laboratory control is an often discussed point at Abbot: while the Lowell mill advocates floor control wherever practical, the Forge Village and Seneca mills of the company depend primarily on the laboratory.

Following is a brief summary of one phase of control at the Lowell plant of Abbot Worsted, the drawing department. The description does not represent the entire quality control system at Lowell or that of the other Abbot mills. It does bring out however, that testing, and test evaluation by section men, based on developing greater interest and responsibility at that level, has proved to be practical.

Starting Up. Considering the specified drafts, ratches, and doublings of a lot going through the drawing department, section men make the necessary machine settings; the first few yards of sliver or roving are run down, and the machine is stopped. Whether floor or laboratory control is used, the Abbot policy is that no machine is started in production until satisfactory evenness tests have been achieved.

In the average case, the sectionman concerned makes an evenness test, enters the results in a journal, and compares it with acceptable results. If standards are met, the machine is started up; if they are not he adjusts ratch, carrier and/or tumbler arrangements, or makes parts repairs or replacements, and then retests. If a satisfactory test is still not possible, the section man brings the problem to the overseer who lends his knowledge in search of the cause.

When persistently substandard tests are encountered on the floor, and adjustment possibilities are exhausted, the problem is called to the attention of the plant superintendent and the laboratory.

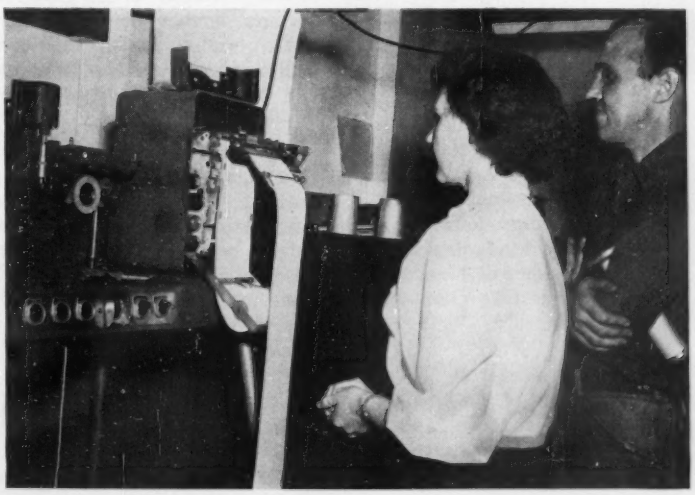
At this level, after further adjustment advice has been offered by the superintendent, a decision is made as to whether or not evenness is a critical quality factor for the particular process test under discussion. It is possible that unevenness showing up in a drawing operation, because of the nature of the yarn count, type, or end use, is not serious enough to be considered out of control. Other decisions made by the superintendent on evenness include stock changes and drawing layout revisions. Usually, a lot that requires such attention will be followed up

1. INTERSECTING GILL BOX apron if cut or damaged will cause definite repeats of high deviation from norm on test graph pattern, prompt section man to seek out defect and change apron.

2. PERIODIC INSPECTIONS of machines while production is running are coupled with mechanical tests. Here, department overseer checks visually and by touch for unevenness at gill reducer.

3. NIP ROLLS of gill reducers, located below and behind delivery rolls, can accumulate laps and cause unevenness. This is the principal cause of trouble when substandard test results show up in this operation.

4. REDUCER RATCH, if adjusted to produce over- or under-control, will contribute to unevenness. This is the principal cause of trouble when substandard test results show up in this operation.



SECTION MAN studies test graph being produced by Pacific tester. He interprets the results as satisfactory or substandard, and will return to the stopped roving frame with a decision either to start up or to correct, adjust, or replace some source of unevenness.

closely by the laboratory in subsequent operations.

Running Checks. In order to detect and correct for sources of unevenness other than start-up settings, section men regularly inspect all equipment and its running product at the beginning of their shift. In the case of large lots, samples are taken from each machine in the department weekly or oftener.

The Test. The evenness test performed on the drawing department floor is that prescribed for use with Saco-Lowell evenness testers. Briefly, it consists of passing a 10-yard sample through the machine, calculating an unevenness percentage, and examining the graph for unusual fluctuations such as high or low point repeats. This is done for intersecting can gill boxes, weigh box and finisher gill reducers and reducers; because of its fineness, all roving is tested on a Pacific or Uster machine in the lab. The reason for the lab test on roving is only because the Pacific and Uster testers are located there instead of in the mill proper, as are other testing instruments.

Details of calculating unevenness involve reading high and low recording pen points for each yard, averaging the 10 points for both the highs and lows, subtracting the lower deviation (from the norm line) from the higher, and dividing by 2 to establish a new center point reflecting deviation or unevenness.

Since fluctuations on the graph may be greater for heavy sliver than for fine, within the limits of the same percentage of unevenness, sliver weight must be taken into consideration when reading graphs. Fluctuations that repeat in a regular pattern, while in themselves possibly not serious enough to downgrade a test, can point to some kind of a machine irregularity. Some of these that are detected by section men will be listed elsewhere.

Tolerances. Generally an evenness deviation of no more than 15% for gill reducers and 20% for reducers is considered to be acceptable for sliver. Since this is not a set rule, section men are guided by the journal entries that are made covering each start-up test made in the department. The entry includes most identifying conditions such as quality of stock, ratch, weight, and average, maximum, and minimum evenness deviations. If a change is made, the change is noted and test results are entered against it.

Rather than referring to a rigid standard, section men and overseers examine histories of previous, similar lots.

Pinpointing Trouble. while no hard and fast rules can be set down, abnormal evenness graphs warn floor men to search for certain danger points.

Generally, bent faller pins and bad rolls will show up in a pattern on the test graph. In the case of the intersecting gill box, damages to the aprons such as a cut place will also produce a pattern on the graph.

One source of uneven sliver that is almost impossible to pick up visually by machine inspection occurs when laps form on gill reducer nip rolls; while not forming a pattern, this condition will cause substandard test results which will start the section man on his search for the difficulty.

On reducers, too much or not enough control is quite simply detected and traced to ratch settings. In this case the absence of carrier rolls simplifies the task of correcting for unevenness.

The trouble shooting job done on roving frames where unevenness occurs further points to the position and number of tumblers and carriers, roll tension, and ratch.

The Lab. To this point lab control has been described only briefly, as in the case of serious and persistent unevenness and in roving testing because of the location of the proper equipment. Other of its functions, however, include checking of new and unusual runs, the establishment of end product standards, correlation between different test methods, and the pinpointing of quality deviations through tracing substandard yarn tests back through various departments.

Handy Weave Room Layout

Maybe you have become discouraged trying to keep up with loom fixer sections, styles, production and various changes in the weave room on your conventional weave shed plan. If you have, try this easy way as illustrated by Pete Dumas, superintendent at Bachmann-Uxbridge in Talladega, Ala.

Loom positions in the weave room are drawn according to permanent locations, then the plan is encased with a glass cover. Any style changes or records can be made on the glass with a grease pencil (one for writing on glazed surfaces) or a special free-flowing fountain pen.

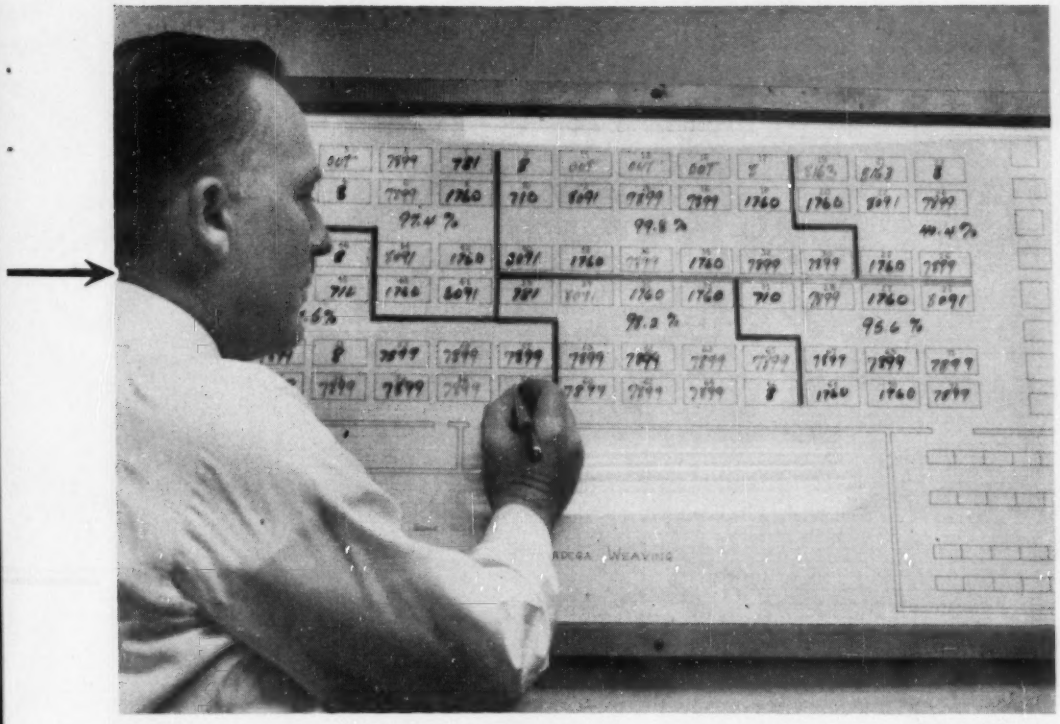
The record is there as long as you need it, and there's no necessity to make an entirely new layout every time a change occurs; the old record in grease pencil can be wiped away with a dry cloth.

Having Trouble with

Nylon can be stained or dyed with the alcohol solution of certain acid colors at room temperature. "Dacron" is not dyed or badly stained in such a solution. Therefore, yarns or fabric containing mixed ends of each fiber can be dyed with the alcohol solution of acid dye to identify them. The nylon will be dyed, but the "Dacron" will not.

To make the test solution, dissolve 2 to 5 grams of Du Pont Anthraquinone Blue SWF Conc. 150% in one liter of denatured alcohol at room temperature.

To determine mixed ends while the fabric is on the loom, the test solution is painted or swabbed across the fabric just behind the reed. A few minutes are allowed for the alcohol to evaporate, and then the fabric is thoroughly washed with clear water. Nylon ends will be stained a medium blue and can easily be seen, especially if a white background is placed beneath the fabric. If a nylon end is found in a warp of "Dacron"



Mixed Ends of Nylon and Dacron? Here's Help!

or vice versa, it can then be removed and the proper one put in.

Mixed ends can also be identified with this solution on the warping machine. The ends from the creel are drawn into a bundle behind the reed. The end of this bundle is dipped into the dye solution and allowed to soak for 10 to 15 minutes. After the bundle is removed, it is rinsed in clear water to completely remove the color from the "Dacron." A white end of "Dacron" in a blue bundle of nylon ends or vice versa is easily seen and can be traced immediately to the contaminating package on the creel.

From Preliminary Bulletin CSB-X-16, September, 1954, published by Textile Fibers Department, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

New York Cotton Exchange Proposes Contract Changes

The Board of Managers of the New York Cotton Exchange recently adopted the following changes in its contract for the future delivery of cotton:

Review and Reclassing. In addition to the present rule covering one review of class on original certificates, it is proposed that certificated cotton should be eligible for reclassing with new samples at the termination of each twelve-month period.

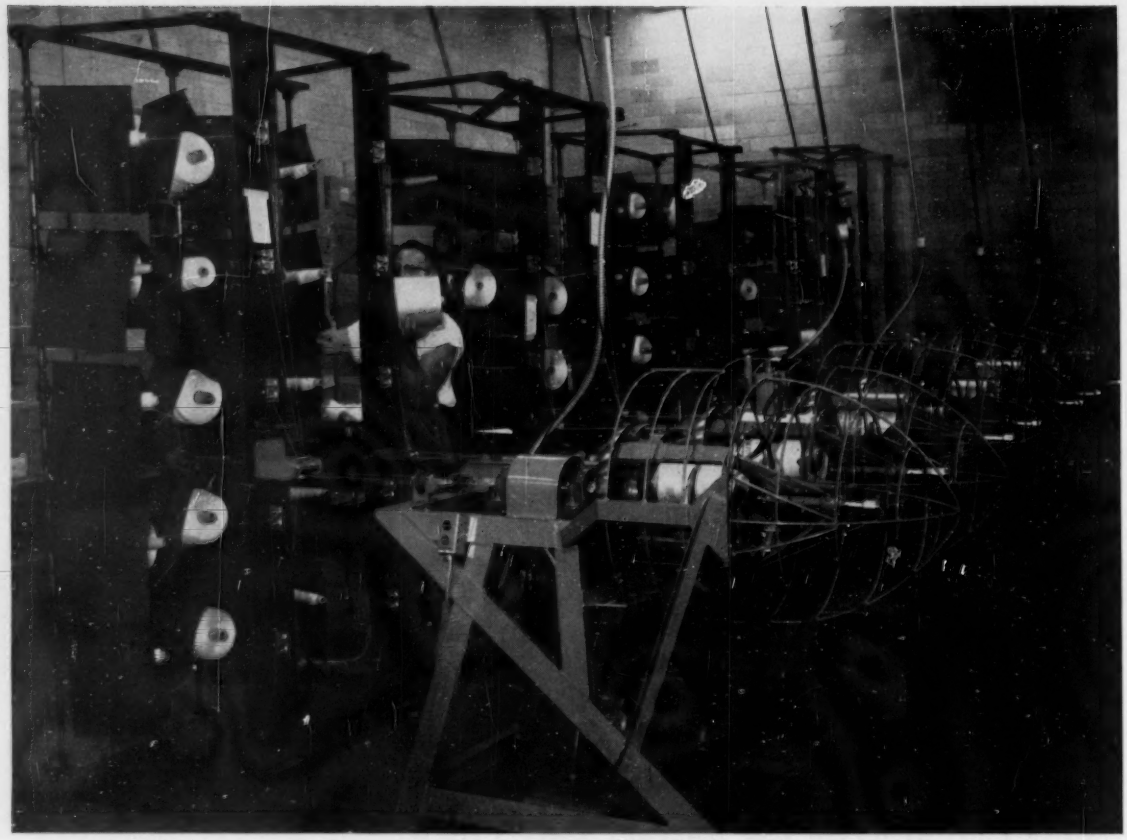
It is further proposed that all certificated cotton meet a Micronaire test of 3.0.

Irrigated Cotton. The proposed change will allow delivery of irrigated cotton without discrimination, whereas the current contract only permits the delivery of cotton in grades better than Strict Low Middling having a staple length of one and one thirty-second of an inch or longer.

Cotton Samples. The new contract will provide that the weight of each duplicate sample shall be not less than four ounces.

Transferable Notices. It is proposed that the transfer period of Transferable Notices shall be one hour to each receiver and that all notices shall be handled directly through the New York Cotton Exchange Clearing Association, Inc., instead of at present between buyer and seller after the first receiver. All transfers must be made before one hour after the close.

The foregoing changes are all subject to approval by the members of the New York Cotton Exchange and are being submitted to them immediately for their consideration. If approved, the changes will become effective beginning with the May 1956 contract, and the current contracts will expire in April 1956.



TEN SPINDLES are in operation at Excelsior Plant No. 2 where the Whirlwind twister-winder has given gratifying results for more than a year.

1 ton / spindle / week

and no knots in the 25-lb packages made on these twister-winders

Staff Prepared

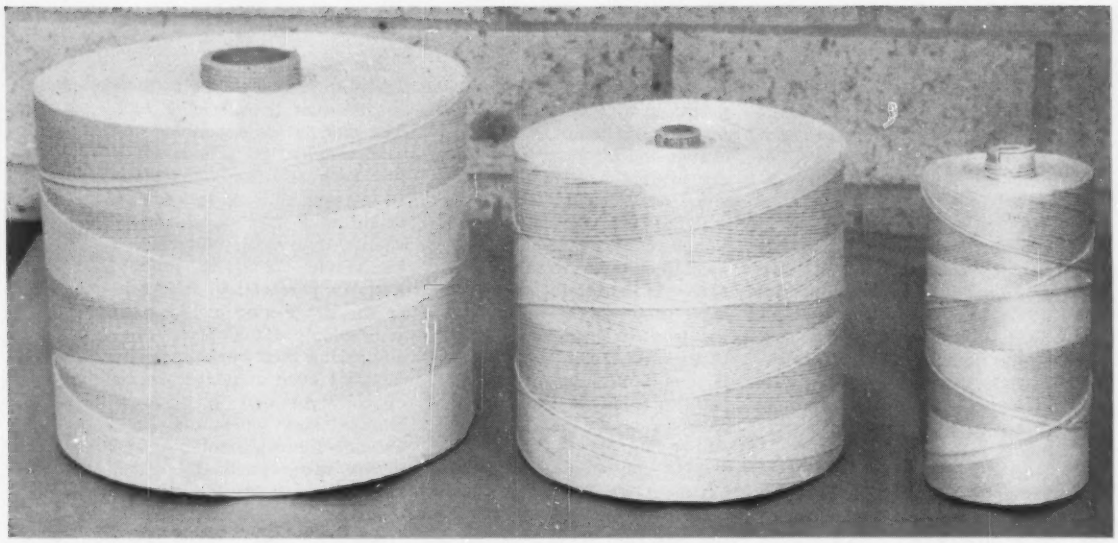
EXCLUSIVE

THE WHIRLWIND 2-for-1 ply twister-winder was developed by the Deering Milliken Research Trust at the request of Excelsior Plant No. 2, Clemson, S. C. This plant was seeking a quality improvement to offer customers an advantage in handling heavy denier twisted rayon and nylon cord used for V-belts, fire hose, and similar applications.

Advantages. Ten spindles are now in operation at the Clemson plant where the Whirlwind twister-winder has been in operation for more than a year with gratifying results. These new machines make a 25-lb package and replaced another precision-type twister which made 3-lb packages. The 3-lb packages had to be wound from the spools to 15-lb packages on tubes for shipment. This system of handling made knots in the cord.

Belt and hose manufacturers formerly had to remove knots or discard belts containing more than the allowable number of knots resulting from package winding. The new twister-winder has built more and better customer acceptance of this type of product.

The new machine eliminates knots altogether and delivers cord on a precision wound package, per-



COMPARATIVE PACKAGE SIZE is shown here. Left to right, 2200-denier 5-ply rayon on 25-lb package made on new twister-winder; 15-lb package made from several 3-lb packages shown at right. 15-lb package was formerly shipped to customers, contained knots.

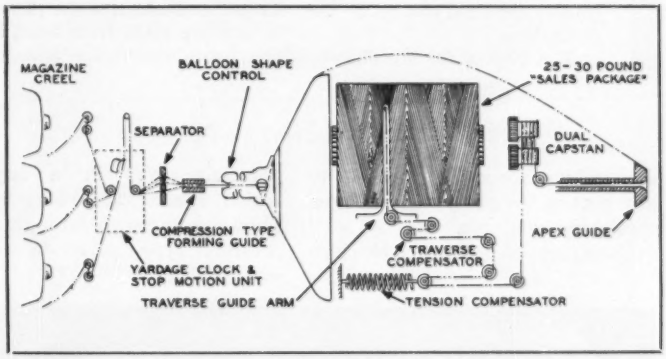
forming both twisting and winding operations simultaneously on a package that is ready to ship to the customer. The Whirlwind operates at 92% efficiency as compared to approximately 60% efficiency on the machine it replaced.

The ten spindles have saved 8 man-hours labor per shift on the winding operation alone, because no rewinding is necessary.

Versatility. Belt cord construction from rayon, and filling in fire hose (nylon, rayon, or Dacron) usually ranges from 11,000 to 50,000 denier. 2200-denier 5-ply; 2200-denier 4-3; 1650-denier 7-3; 840-denier 7-ply nylon; and 220-up to 100-denier 27-ply, 35-ply, 44-ply, 55-ply Dacron for fire hose, and 1100-denier Dacron in these sizes include some of the cords wound and twisted on these machines regularly.

Ply count possibilities range from 2 to 120 or more ends. Finished cord size may vary from 2,200 yd per lb to 90 yd per lb.

The Whirlwind has many other applications other than belt cord. Samples of other products have been run on request; for example, cotton carpet yarns, rayon carpet yarns, cotton hose yarn, glass yarns, acetate, and upholstery yarns.



CORD FLOW diagram shows how the Whirlwind twister-winder operates.

Production. On 2200 5-ply construction, each spindle of this machine produced 1-ton per week. Ten spindles now produce more than 48 spindles on the replaced machine.

Spindle speed is 4500 rpm but in view of the 2-for-1 feature, this is equivalent to 9000 rpm spindle speed on 2200 denier 5-ply construction. This installation has a twist range of .8 to about 7 tpi.

Two 3-hp motors drive each 2-spindle unit, which is well guarded and safe to operate. Space requirements are about the same as for the 48-spindle machine.

Maintenance. In more than a year's operation, maintenance has been negligible, and no maintenance problems are anticipated. A small amount of lubrication is required every two weeks, and there are 17 anti-friction bearings to lubricate on each spindle unit in addition to the Apex bearing, which is lubricated once every three months. The master mechanic does the lubrication on this machine at the present time to be sure it is lubricated properly.

Description. A magazine-type creel stands upright at the back of the machine and accommodates five packages in Excelsior's present set-up. Arrangements can easily be made to handle an unlimited number of packages.

Each unit consists of two spin-

New Gimmick for Selling Textile Machinery

A prospective customer for Platt Bros. (Sales) Ltd. textile machinery can now see what his own mill will look like, not only in plan, but in third dimension.

Called "Platt's Project in Perspective," the visual aid is sent to the customer in five sections, bound in an attractive folder, as follows:

(1) A summary of the cost of the plant, reduced to its essentials but still showing a breakdown of costs of the machines in the different departments.

(2) A color-photograph measuring 20" x 15" showing by means of models a perspective view of an exact scaled replica of the proposed mill layout. From this photograph the customer can see exactly what he is buying and how it will look when the mill is built, the machinery installed and ready for production.

(3) A plan of the layout, conventional in appearance but produced by a novel method — instead of being individually drawn, the machine floor plans are printed in detail on adhesive paper, each machine being correctly spaced in relation to its neighbor; thus when a complete plan is required it is a simple matter to cut off one or a group of machines from the printed sheet and place it in its correct position. The only pen work then needed of the draftsman is to dimension passages and caption the machines.

(4) A photograph of each department — again the scale models are utilized for making the photograph.

(5) The "Spin-Plan" showing machine quantities and construction details.

The scale models of the textile processing machinery used in the preparation of the photographs are made from wood in the firm's apprentice training school. Scale employed in their construction is ¼" = 1 foot. The models are assembled and photographed on a base which has been accurately machined in ½" squares (each square representing 2 feet of mill floor space); thus measurements can be taken off quite readily, even in perspective. Altogether the range now includes approximately 120 different machines and their variations, and includes even standard widths of conveyor belt in different lengths, and bales and laps. Human figures, trolleys, and trucks, are occasionally added to the layout for the sake of realism.

Although this visual selling aid was initially developed for use in "undeveloped countries" where buyers are not familiar with textile machinery, many other uses are visualized for it, such as planning new machinery layouts in existing mills, etc.

dles, which are easily portable to any part of the plant where larger creels are available.

The creels feed the yarn through porcelain eyes in a separator which spaces the yarns evenly. Then the yarns go through a compression type guide to form a cylindrical cord. The first turn of twist in the cord is inserted as the cord enters the spindle whorl.

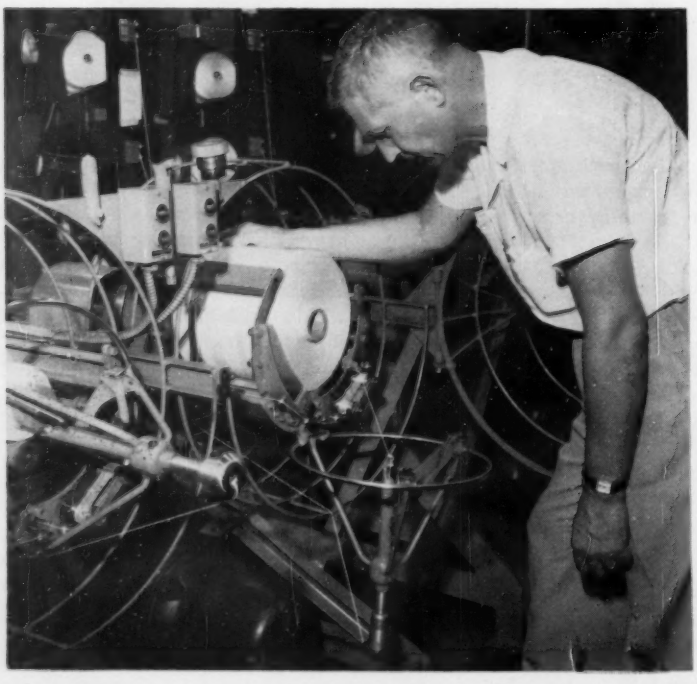
The cord then passes over a balloon shape control, into the balloon area proper, and into an Apex guide. The second turn of twist is then inserted as the yarn leaves this guide.

Dual capstans then assure uniform feed, which in turn assures uniform twist.

From the capstans, the yarn goes to traverse compensators and a traverse guide, which are important features that enable the winding of large precision-lay tube or cone packages.

A predetermining yardage counter and creel stop motion control the length of cord in each package.

The Warner & Swasey Co. has been licensed to manufacture and sell the units, which are expected to be available for delivery in April, 1955.



← **NO RE-THREADING** is required upon doffing full package from each spindle. Here cage is open and package is ready for doffing.

Mr. Spinning Overseer—

here's how to get full value from your

ends-down test

By Marcus C. Gross

EXCLUSIVE

HOW OFTEN should ends-down studies be made? Unless some unusual conditions prevail, studies should be made at least every two or three months, depending on the number of spindles and time allotted for tests, but at least once every three months.

Tests should be thorough, encompassing a full maintenance-quality report on ends-down causes.

Spot-Check for Ends-Down. The busy overseer of spinning who hasn't the time to make exhaustive studies himself, can make a simple 10-minute daily spot-check of running conditions by what is known as the "survey" method.

In one mill of approximately 20,000 spindles the overseer used a constant of 3,333 for a daily 10-minute survey, which was derived from the following formula: $\frac{20{,}000 \times 10}{60} = 3{,}333$, or 3,333 spindle hours observed. Seconds later he would have the average ends-down per 1,000 spindle hours. For example, if there were 92 ends down: $\frac{92 \times 1{,}000}{3333} = 27$ ends-down per 1,000 spindle hours.

In spot-checking, a full ends-down test should be ordered at once if any unusual conditions appear.

How Should Ends-Down Tests Be Conducted? There are many methods to conduct ends-down tests, but a study that does not contain a classification of causes, visible or invisible, is of little value to the overseer, and such studies ignore the important quality angle.

Ends-down studies should be undertaken solely by trained observers who are experienced in all phases of spinning.

Unlike single unit studies, like "passing the board," "piecing ends," and "changing roving," the ends-down study contains too many variables to be flatly considered as another unit study with the determination of ends-down as the most important factor.

How should a test be conducted, and what classifications and causes listed? First, an ends-down study should not exceed 4 hours and preferably should take between 2 and 4 hours. It is a well-known fact that employee tension increases if the test is an exceptionally long one, and this may affect quality.

The test should be limited to an area containing between 800 and 1200 spindles, or less if a given yarn count to be tested has less spindles allotted. This is important. The observer should have visual control of the study at all times, and the larger the area the

RESULTS OF A TYPICAL ENDS-DOWN TEST

Cause	Frame Number 40	41	42	43	44	Total
Roving and creel						
Roving run-out	2	1			1	4
Roving break-back		1				1
Singling	1		1			2
Bad roving (slubs)		1	2	2		5
Drafting assembly						
Lint in trumpet						
Roving outside trumpet						
Top roll bad	1	2				3
Top roll lap						
Steel roll lap						
Lint on rolls						
Top clearer waste						
Spindle and ring						
Mechanically bad spindle		2	1		2	5
Off-set spindle			2	1	1	4
Off-set thread guides	1					1
Traveler off	1	1		3	1	6
Lint on traveler						
Bad bobbin	1			2		3
Bobbin riding high		1				1
Outside causes						
Broken in cleaning						
Broken by spinner						
Flying lint				1		1
Broken by other ends						
Ends whipping						
Adjacent top roll lap		1		1		2
Adjacent steel roll lap						
Scavenger roll lap						
Unclassified						
Top	3	2	3	4	3	15
Middle	1			1	2	4
Bottom	1	2	1	3	2	9
Total ends down	12	14	10	18	12	66
Average per hour	6	7	5	9	6	33
Ends down/1000 spindle hours	26.34	30.73	21.95	39.51	26.34	28.97

less visual control is possible.

The area should be cleared of all employees except the spinner, the doffer when frames are ready for doff, and necessary maintenance employees. These should be kept under constant surveillance during the test. The study should cease on any frame the doffer takes over for doffing, and should continue only after the ends broken during the doff are pieced up and the frame turned over to the spinner.

Make-up time should be distributed among the frames at the end of the study, but this is optional with whatever method used.

Place a chalk mark on the creel above the spindle when an end break cannot be visibly classified. The section hand should be notified when 3 such chalk marks appear, and when a visibly classified end indicates a maintenance problem. If the test indicates poor maintenance it should not be accepted as standard, nor even approved if below standard.

There is no set and fast rule as to the number of ends-down per 1,000 spindle hours that can be accepted as standard. Many mills set their own. There are many factors that lead to the setting of a standard, and in one mill that has used strict middling and middling for many years, with an intermittent yarn range from 6s to 80s, the standard of 35 ends-down per 1,000 spindle hours was accepted under normal conditions with maintenance at a high level. Today even that standard can be challenged where mills have quality control from the picker to weave room, and better processing with a minimum of draft gear changing in spinning.

An ends-down study such as illustrated in the table, listing the classification of causes for ends down, covers a wide range and when summarized it provides the overseer with valuable data as to the running conditions. [Table on preceding page.—Eds.]

The value of listing ends-down causes for each individual frame is emphasized because individual frame conditions become at once apparent. The constant for 1000 spindles is derived by dividing 228 into 1000. Thus, for example, No. 40: av. ends down per hour, 6; constant, 4.39; 6 x 4.39 = 26.34 ends down per 1000 spindles/1 hour or 1 spindle/1000 hours.

A glance at the test sheet shows that the three principal causes for ends down are bad roving, mechanically bad spindle, and traveler off. However, the 4 offset spindles merit attention. Elimination of these causes not only improves quality but reduces ends down per 1000 spindle hours, a major factor when determining a spinner's assignment.

Quality Code For Rayon Carpets

The establishment of a quality code for rayon carpets was announced recently by American Viscose Corporation. The plan provides for identifying carpets which meet fiber and construction standards with a "Tufton" quality label.

At the same time, the corporation announced that it will henceforth apply the trademark "Tufton" to all its carpet fibers when used in carpets of approved construction. These include both smooth and crimped rayon fibers, in deniers from 8 to 50 and bright and dull lusters.

Established with the close cooperation of leading carpet manufacturers, the Tufton Plan promises to be one of the most important joint efforts the rayon carpet industry has ever taken, according to the announcement.

Through national and trade advertising, by both American Viscose and carpet manufacturers, the meaning of the Tufton label as a hallmark of quality will be told.

The heart of the new quality plan concerns carpet construction. Under the code, carpet samples will be tested for fiber content, pile weight, pile density, backing material, bonding material, color fastness to light, and color fastness to washing. The testing will be done by an independent laboratory at the direction of American Viscose. Carpets meeting these standards may carry the Tufton quality label. No royalty is involved in the use of this trademark.

The Tufton label will be the consumer's assurance that she is getting a carpet made with quality rayon fibers engineered specifically for that use and constructed according to quality specifications.

Coming Next Month

TI's seventh annual Case History Reports issue. Equipment performance reports tell how textile mills are putting modern equipment to work on a profitable basis.

New Atmospheric Fading Problem

A. L. Brassell, president of the United States Testing Company of Hoboken, N. J., has disclosed the source of a new atmospheric fading problem in the combination of incompatible finishes and dyestuffs. "The trouble stems from the use of certain finishes on nylon nettings," stated Mr. Brassell, "and is not confined to uninhibited acetate dyestuffs but affects well-established inhibitors as well."

The use of certain crease-resistant finishes, stiffening agents, and flame-retardant compounds on nylon nettings, combined with acetate fabrics, has caused rapid deterioration of colors, particularly in party dresses, evening wear, and bridal gowns.

"We are receiving the usual

One other method of figuring the results of the test is as follows: frames, 5 with 228 spindles each; total spindles tested, 1140; spindle hours tested, 2280; total ends down, 66. $\frac{66 \times 1{,}000}{2280} = 28.9$ ends down per 1000 hours. This is similar to the "survey" method.

Still another method is to divide the total spindles in the test into 60,000 minutes. For example: $\frac{60{,}000}{1140} = 53$ minutes. Assigning the 1140 spindles to a 53-minute test, the total ends down at the end of the test will be ends down per 1000 spindle hours.

The overseer thus has a wide range to determine the method most convenient for him to use.

To complete the test the observer should fill in the factors given in the accompanying form.

CHECK-LIST OF FACTORS RELATED TO ENDS-DOWN TESTS

_____ Observer	_____ Hrs/Mins Observed	_____ Date
_____ Spinner	_____ Spindles Observed	_____ Dept
_____ Sides _____ Spindles	_____ Spindle Hours Observed	_____ Overseer

Cotton	Spindle	Conditions	Twist
Type _____	Type _____	Dry Bulb _____ F	TPI _____
Grade _____	Make _____	Wet Bulb _____ F	Constant _____
Staple _____	Gauge _____	RH _____ %	Gear _____
Character _____	Speed _____	Weather _____	TM _____

Draft	Yarn	Miscellaneous	
Hank Roving _____	Number _____	Ring Diameter _____	Flange _____
Doublings _____	Warp or Filling _____	Front Roll RPM _____	Diameter _____
Constant _____	For _____	Traveler _____	
Gear _____	Mark _____	Traverse _____	
Draft _____	Break Factor _____	Wind _____	

complaints against the faulty choice or application of dyestuffs and inhibitors," said Mr. Brassell, "but this is an entirely separate problem that our chemists are dealing with. Here we have the destruction of perfectly durable dyes and inhibitors through contact with otherwise satisfactory finishing compounds.

"The dyestuff laboratories of the Testing Company have developed special techniques for the separation of the qualities in finishes and dyestuffs which contribute to the defect. By means of these selective tests, the chemists have been able to pinpoint the cause of the trouble. In some cases, this has shown simply poor colorfastness, but more often, the contributing factor of incompatibility is discovered.

"It would be wise to have an analysis of fabric combinations made prior to garment cutting operations. Fabric suppliers and finishers are cautioned to investigate the matter so that this unique complaint situation will not become more widespread."

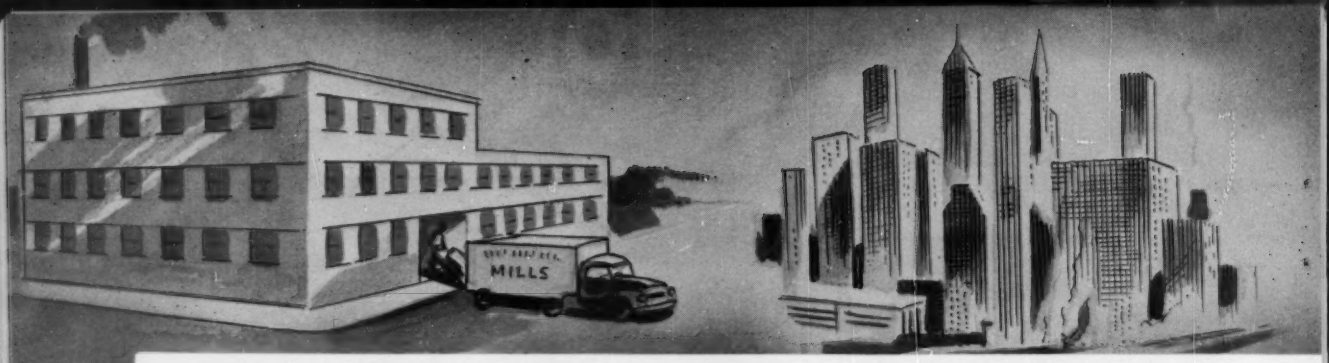
H'ya, Doc

By Charles Busick

It pays to have an injury;
It's no good being ill.
Just give me splints and iodine—
No medicine, no pill.
If I'm attacked by viruses,
Don't say that I've been sick;
But write that I've been wounded,
please,
And spread it on quite thick.
Thus, "laryngitis," "Quincy throat"—
Mere sicknesses denote.
Why can't you say I suffer from
"Abrasions" of the throat.
"What's in a name!" the Great Bard said.
Such depth of naivete!
Should William not have sensed a name's
Effect on take-home pay?
Though sticks and stones may break
my bones
A name can really harm me.
While I detest a "stomach-ache,"
"Contusions," "fractures," charm me.
So if you wish to keep my trade
and have your business thrive,
Please make your diagnosis with
An eye on 105.*
But if you must be ethical
And use a term abhorred,
Arrange my reservation for
The convalescent ward.

—*The Journal of Taxation*, November, 1954

*Section 105 (d) of the Internal Revenue Code of 1954 says that an employee may be paid up to $100 per week tax free for absence due to injury or illness if his employer has a regular plan covering such payments, but the tax-free payments don't start for seven days in case of sickness, unless the employee is in the hospital for at least one day during the illness. Tax-free payments while injured start with the first day, whether or not employee is hospitalized.



What makes a textile

By William P. Wright, Jr.
Assistant to the President
Greenwood Mills, Inc.

NO. 2 OF A SERIES — EXCLUSIVE

EVERY man likes to be considered good at what he does, regardless of his profession or occupation. Men successfully engaged in selling or merchandising are no exception, and certainly they like to believe that their demonstrated skill and ability puts them at the top of their group.

In the merchandising end of the textile industry there are a considerable number of "good salesmen." They are known for their proven ability to merchandise a mill's product successfully in good times and bad, year after year. In slow markets, they get preference for their mill's goods, and in active markets they get that extra eighth of a cent.

My thesis—without meaning to detract at all from the abilities of these men—is that a good product is easier to sell than an inferior one, and therefore a good product often makes salesmen look good.

I'm assuming that many readers of this publication are primarily interested in production and are well aware that the prosperity of their producing facilities depends on the successful sale and distribution of their product. My thought is that the producing mill can insure the profitable sales that mean their prosperity by giving their salesman a good product.

If this is true, let's analyze what are the ingredients of a good quality product—textile-wise. Obviously, when reduced to its simplest elements, a given fabric is the result of a combination of raw materials, machinery, and people.

Raw Materials. In the entire history of the textile industry there have never been a greater number and variety of textile fibers and yarns to choose from, than are available to mills today. There is a variety and availability of staple, denier, properties, and appearance to the point of complete confusion. This latter is aided by an almost equal variety of claims and counterclaims for the different fibers. There is also an availability of qualities of some of these fibers ranging from the topmost to the indifferent.

There is just one thing that all good quality textile products have in common, and that is the mill that produced them started with good quality raw materials. No product can be better than the raw materials that go into it—and if one mill buys cotton of a shorter staple, and of an inferior grade than another mill making a similar construction, it will show up in the quality of the goods. Later, the better piece of goods may make a salesman look good as he takes an order away from the producer of the inferior piece of goods.

Machinery. Machinery is the second important component of a good product. Even the best raw materials, handled by mill operatives with broad experience and close supervision, will not produce as good quality a product if processed on old, inefficient, and outdated machinery.

The emphasis on new textile machinery seems to have been chiefly centered on the cost advantages to be derived from installing the latest equipment. This, of course, is important, for a mill can only survive, regardless of the quality of its product, if it can produce and sell profitably in a competitive market.

An edge in cost is a wonderful thing, particularly when a fabric of the same or better quality can be produced for less. Nor will anyone deny that offering goods at ⅛¢ less has made many a salesman look good.

But, leaving cost out of consideration for a

salesman look good?

moment, modern machinery makes better quality goods. With so many large and important cutters as cost and quality conscious as they have become in recent years, the running quality of a fabric, as measured on the cutting table, has more often determined whether or not that fabric assumes market acceptance.

When a large garment manufacturer buys 100,000 yards each of a similar construction from half a dozen sources, and each lot is followed through his plant under similar conditions, and the ease of cutting, the number of throw-outs, the number of seconds determined, the superiority of a fabric can be measured precisely. In that kind of a test, which is met more often than might be supposed, a fabric made on outdated equipment just can't compete.

Again, the salesman who enjoys the continuity of that kind of business looks good, but you might say the orders were won for him when his mill was modernized months or years previously.

People. The third important component of a good product is the people who make it. The best quality raw material, spun and woven on the newest and most modern machinery, will only result in a top quality fabric when the processing is carried out by interested people who know their job, and who do it well. The automatic machinery being produced today can be equipped with all types of stop motions and other devices to insure good spinning and weaving performance, but unless these devices are made to operate properly by people who understand their purpose, and the advantages to be gained from their proper use, less than top quality cloth will result.

Close supervision at each processing step is, of course, necessary, but better than a man who carries out a function well because he is supervised, is the man who does it well because he wants to. Such an operator has the will to make quality goods, and fortunate is the mill organization that has developed among its employees the type of esprit that is illustrated by this desire to do the best job possible.

It takes time and training and many other factors, such as a favorable working atmosphere, to achieve this will to make a better product, but once achieved and then maintained, there is hardly any greater asset that a mill could hope to have.

How a Good Product Spells the Difference In Selling. If we have determined, and are agreed, that a given fabric is a combination of raw materials, machinery, and people, what does this have to do with what makes a textile salesman look good?

Just this—if a mill begins with a good quality fiber, and it is spun and woven on modern and well maintained machinery by people with the know-how and will to make a better fabric, any salesman selling that mill's product over a period of time can hardly help but look good.

It is true, of course, that a fabric must be related to proper end use requirements, and styled to market demand, and that it must be

Decisions made months or even years ago at the manufacturing plant level can make a salesman look good. A quality product is easier to sell than an inferior one.

Planning a Fiber Blend? Consider These!

Here are the physical properties of fibers which affect the success of a blend:

1. Staple length—Yarn evenness is affected by the range of staple length. Too large a variation, too much of a gap between the short and long staples of a blend will foster unevenness and will work adversely on the tensile strength.

2. Fiber diameter and overall length—There are two important factors influencing the spin limit. A high number of fibers to the cross section helps uniformity as well as strength. The greater the uniformity and strength, the better the chances to spin efficiently fine yarn counts. Increased fiber length, within certain limits, also improves the spinnability and tensile strength. Where increased length and decreased diameter are combined, the effect on spinnability is additive.

3. Extensibility—Blending of fibers of similar extensibility is important in its relation to the ultimate tensile strength of yarns and fabrics. Upon applying a high stress to a blended yarn of which the components are far apart in extensibilities, the fibers having the lower extensibilities reach the breaking point first, leaving the entire load to the components having some extensibility left. The lack of concerted effort of all fibers to the ultimate breaking point causes the yarn to have an all-over tensile strength much lower than that of the total fiber strength involved.

4. Dispersion property — By this is meant the ability of individual fibers to separate from their initial group, and hence, to disperse thoroughly within the strand. Poor dispersion properties may be due to any one of several causes: too much or too little crimp, presence of groups of fibers with coterminate length, excessive static, type of finish and many others—in short, too much inter-fiber friction whatever the reason therefor. Lack of adequate dispersion is especially regrettable when the dyeing properties of the components are at variance.

5. Drafting properties—The ability to draft is related to inherent fiber properties, to the finish carried by the fiber, and to the conditions dependent on time, temperature, and humidity.

6. Dyeing properties—On planning a blend, observance of dyeing properties becomes very important. When the fabric is to be piece dyed, the composition of the blend should involve only fibers which are capable of responding to such process. Moreover, selection of the fibers is to be governed by the degree of fastness to sunlight, washing, etc., required in the case.

From paper by Rene Bouvet of American Viscose Corp.'s Textile Research Department, presented during the fiber producer's third seminar for textile institute faculty members.

brought to the attention of the converters or cutters who service those markets by appropriate merchandising and promotion techniques. But with a good product behind him, the salesman who has a detailed and thorough knowledge of his customers' requirements, and who services them properly, is very likely to look good.

It is the known and proven quality of the product, delivered time and again as it is expected to be, that engenders the close relationship that makes for a continuity of business that is so valuable. It is much easier to sell the same customers on a continuing basis than it is to be constantly seeking new outlets for goods as they are produced, and this repeat business can only be achieved by a good product that has proven itself.

The salesman can ingeniously promote and make broad claims for his product, but it is the delivered quality that tells the story.

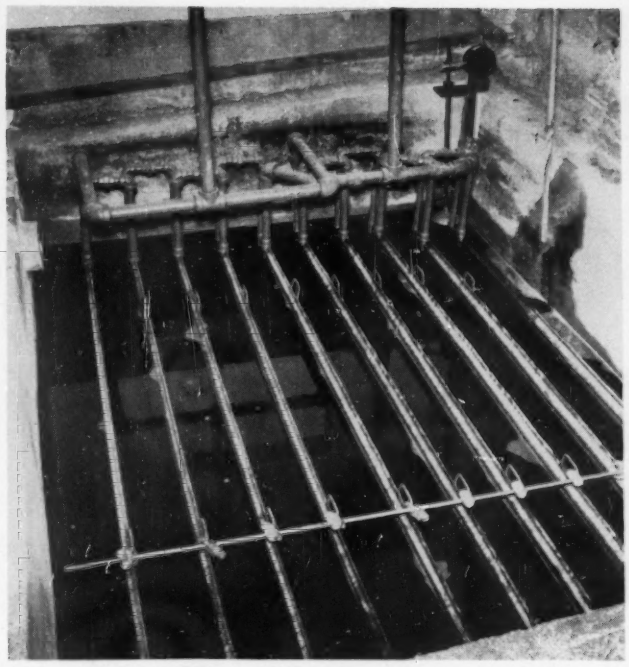
Also, if a mill has a reputation for high quality, any new fabric it makes gains acceptance from the reputation of its previously known fabrics. What greater asset could there be for the salesman introducing that new fabric? Customers whose needs have been analyzed and fulfilled successfully over a period of time are already in part "pre-sold" on any new fabric that mill brings out.

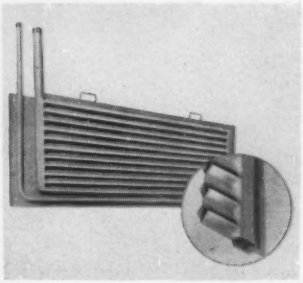
A manufacturer who has cut sizable quantities of a mill's product, and has found a continuity of quality and a lower percentage of imperfections and "throw-outs," is naturally anxious to keep that mill's fabric on his cutting tables. Often he will find he is able to pay a premium for that mill's fabric.

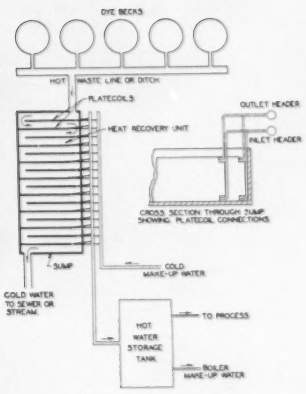
What quicker way is there for a textile salesman to look good than to get a premium for his mill's goods? And this same salesman, in a depressed market when premiums are not being paid even for the best, will often get first opportunity for the business at the going price—an opportunity earned by the known quality of his product. Again he looks good.

I have not meant in any way to minimize or detract from the selling arts that characterize the merchandising of textiles. They are important, and are becoming increasingly so as the variety of fibers, constructions, and end uses make this merchandising more difficult. I have only tried to develop the thought that a good product is easier to sell than an inferior one, and that a salesman, or selling organization, often gets its greatest selling boost, and is made to look its best, because of a decision made months or years before by the producing mill it represents.

This decision perhaps affected the quality of its raw material, the installation of new machinery, or the training of employees, but the product improved in quality as a result of that decision. Another result of that decision was that a salesman—or a lot of salesmen—were made to look good.







TEN HEAT TRANSFER UNITS can be seen in the photo above, immersed in the spent dye liquor. Upper photo at right shows how the units are constructed. Below this is a diagramatic sketch of a typical Platecoil heat recovery unit.

Recovery of Heat From Spent Dye Liquor Promises Savings

Narrow Ribbon Specialty Mills, Inc., of Hanover, Pa., at their Carlisle plant, is using a relatively new type of heat transfer unit to recover heat energy formerly thrown away with spent dye liquor.

The unit, called Platecoil, is made by Tranter Manufacturing, Inc., of Lansing, Michigan. The Narrow Ribbon Specialty Mills installation is designed to take heat from the spent dye liquor and transfer it to makeup water before the latter enters the boiler or is used for processing.

Ten of the units, each consisting of two embossed stainless steel sheets, welded together to form channels for passage of makeup water, have been immersed in a concrete tank into which the exhausted dye liquor flows at the rate of about 1,000 gallons an hour.

This liquor has an average temperature of about 140 F. The 10 Platecoils are connected individually to the fresh water lines. Water comes from the main at about 60 F, flows through the serpentine passages in the Platecoils at the average rate of 1,000 gallons an hour.

When the makeup water leaves the units and goes on to the boiler, or to fresh dye baths, its temperature has been raised approximately 100 degrees. The spent liquor, when it leaves the concrete tank, has been cooled to approximately 100 F.

In other words, by reducing the temperature of 1,000 gallons of spent dye liquor 40 degrees in an hour before it is dumped into the sewer, this Pennsylvania mill is able to raise the temperature of 1,000 gallons of makeup water by 40 degrees in an hour.

This effects triple savings. When water enters the boiler at 100 F instead of 60 F, it takes less time to bring it to the proper temperature for processing, and less time is required to bring the fresh dye baths to correct dyeing temperature.

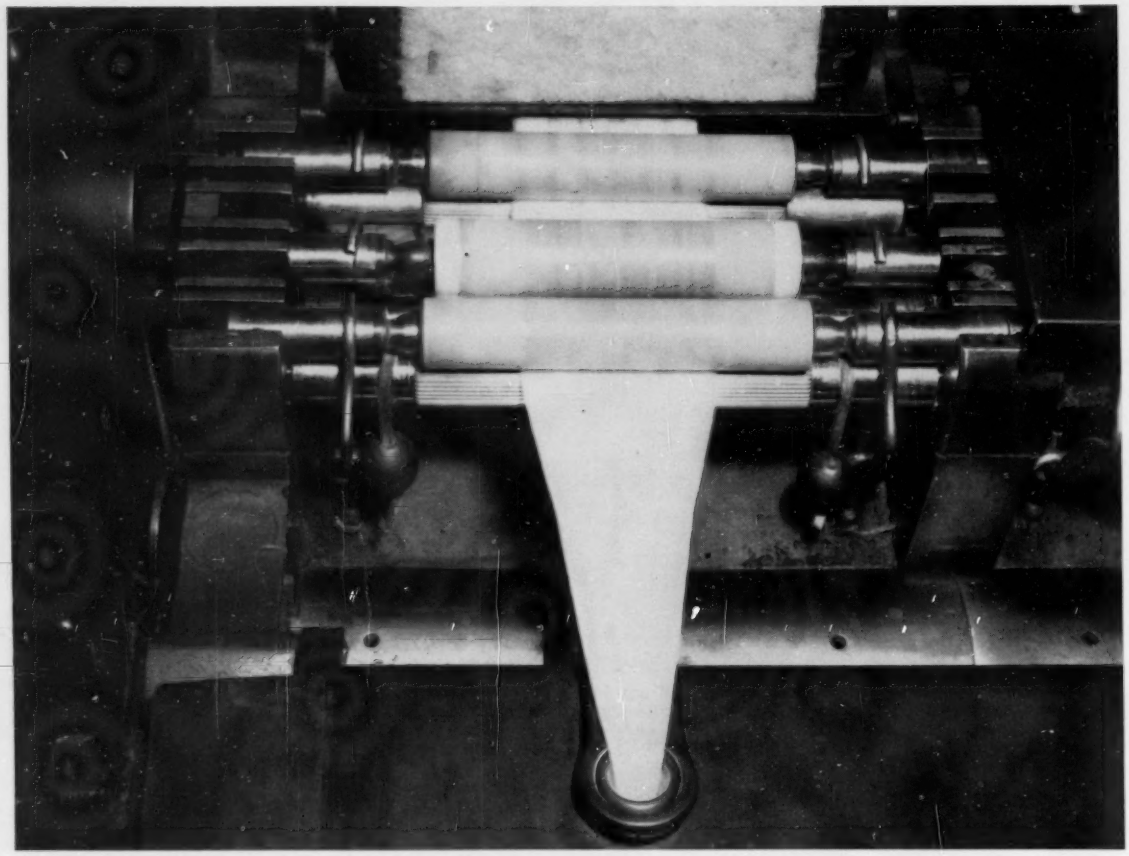
In addition, reducing the number of BTU's that must be added to the makeup water results in savings in steam and is reflected directly in boiler fuel saving.

The heat transfer unit presents a solid area and gives a highly effective rate of heat transfer as can be seen from the manner in which it transfers the heat from the spent dye liquor to the makeup water with virtually no loss in the installation cited above.

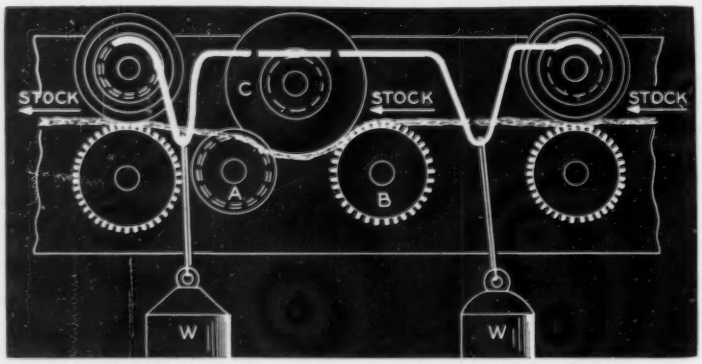
Construction of the unit is such that the only connections —those to the water lines—are above the level of the liquid in the tank. There are no threaded joints in the solution, thus eliminating the possibility of leakage.

Connected to the water lines individually, the Platecoils also provide the additional advantage of easy replacement. Disconnecting a unit from the water lines makes it possible for that unit to be lifted from the tank without disturbing the rest of the units. Each unit is about 2 feet wide and 7 feet long and can be installed easily by two men.

When used for heating or cooling in processing, such as in dye becks, heating size or other processes, this advantage of Platecoil units cuts downtime to an absolute minimum.



SLIP DRAFT conversion on drawing frame.



CROSS SECTION of 3-over-4 slip draft conversion for draw frame. Speed of smooth roll A is greater than speed of fluted roll B, which drives large roll C. Shoulders on smooth roll permit "slip draft."

3-OVER-4

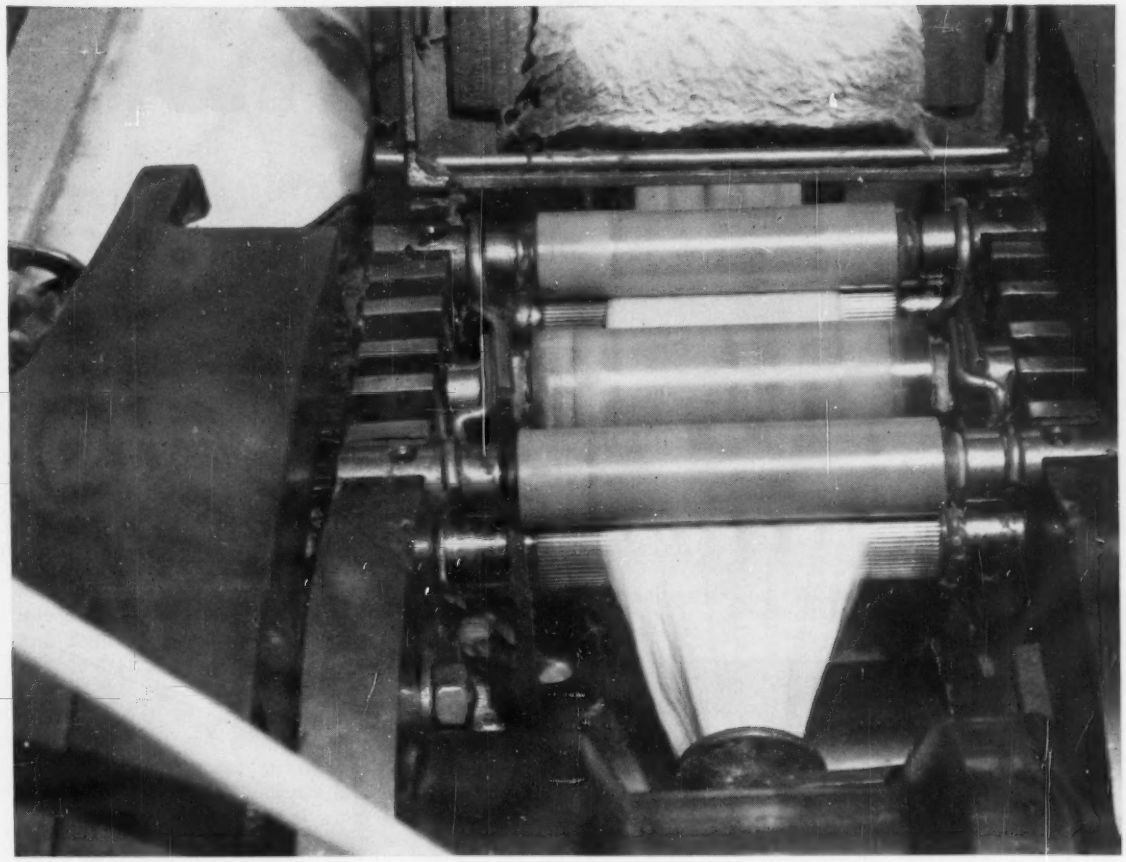
Staff Prepared
EXCLUSIVE

SEVERAL years ago while running 3″ to 6″ staple on Whitin Super Draft slubbers, Robert L. Campbell of Gastonia Combed Yarn Corp., Gastonia, N. C., noted that long staple yarn or a combination of long and short fibers could easily be blended and drafted without cockling the long fibers or breaking the fibers. This, he found, could be accomplished by not holding the fibers too firmly in a "slip draft" zone.

Experiments were conducted with "slip draft" and friction drive rolls on combers. After considerable experimenting, trials, and errors, Mr. Campbell devised and made (patent pending) a drafting unit with friction drive top rolls. (See accompanying illustrations.)

This system of drafting has been used with success in three-over-four roll and four-over-five roll conversion units on both combing and drawing at Gastonia.

Advantages. Breaking strength of yarn has been improved on machines utilizing the drafting unit conversion. For instance, on 38s single yarn the mill was using 100% 1⅛″ staple and break was about 67 lb on skein tests. At present this mill is using 50%



SLIP DRAFT conversion at the comber.

SLIP DRAFT CONVERSION

1⅛″ and 50% 1 3/32″ staple and break tests average 70 lb. No tests on the converted units were made before the change of stocks.

Now there is less clearer waste (about 30% less) and roller laps have been reduced 50% on drawing, conservatively figured. Now the mill can run 1 1/16″ to 1 7/16″ staple without changing roller settings at drawing.

Drawing variation was reduced 20%, based on an average of 50 deliveries.

Variation was reduced 36% on combers converted to this system of drafting. Many tests were conducted to prove this, and 35% was the average improvement on 36 combers tested.

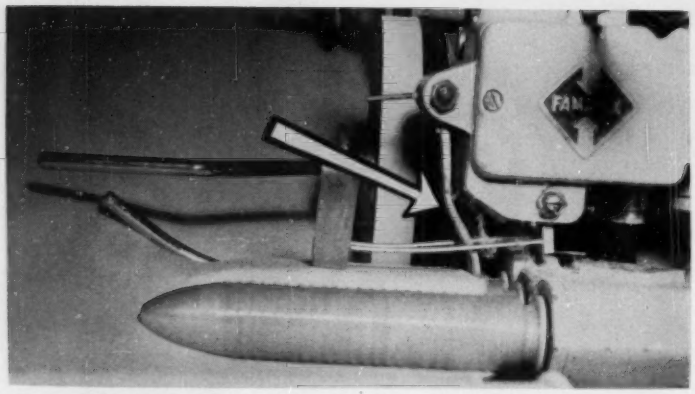
Description. The two center top rolls (on four-over-four) were removed and replaced by a single roll of larger diameter and which rests on the two center bottom rolls. The second roll from front on bottom was removed and replaced by a smooth roll with a machined shoulder on each side to provide a bearing surface for the collar of the top cushion roll. Also, the shoulders keep pressure off the fibers passing through the "channel" of this roll, thereby permitting "slip draft."

The collars on the top cushion roll are 1½″ to 1⅞″ in diameter. This top roll is driven primarily by the fluted bottom roll (second roll from back) which travels at a slower surface speed than the smooth bottom roll (second from front). The collars of the top roll are made of either fiber or nylon and slip on the fast moving smooth roll shoulders, which move 18″ per minute of surface speed faster than the fluted roll which actually drives the top cushion roll.

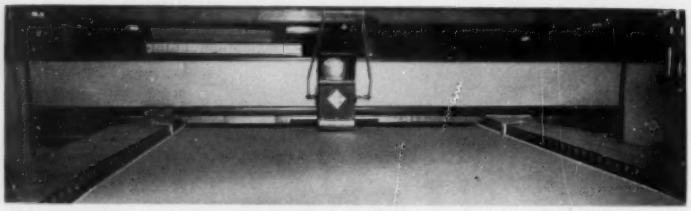
These rolls are currently manufactured by Piedmont Machine Co., Gastonia, N. C.

Maintenance. In buffing the cushion rolls no special allowance is made for the collars; the entire roll is buffed.

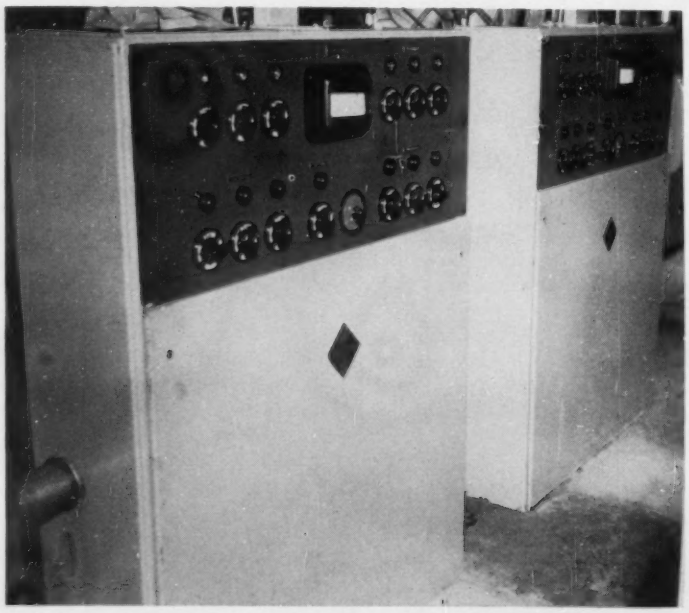
A Convertible



FABRIC IS GUIDED electrically to pins by finger (arrow) and motor. Cone-tipped roll is selvage opener.



TEMPERATURE VARIATIONS in first chamber are prevented by guards over chain slots. Lumograph (center) gives best overfeed setting.



SETTING CHAMBERS are controlled by these panel boards; there is one board for each chamber. Temperature is recorded continuously.

Staff Prepared

A FAMATEX single layer tenter frame consisting of a chain and a housing has been running since March 1954 at H. & F. Binch Inc., Glens Falls, N. Y., on a variety of goods which include nylon tricot, and cotton and acetate knitted and woven fabrics. The machine performs a variety of functions on a wide weight and type range.

The mill, a Native Laces & Textiles operation, can run goods from 33 to 146 inches at speeds of 10 to 60 yards per minute on the frame; it is convertible from pin to clip chain links, is 58 inches high, and occupies a floor space 74 feet long by about 19 feet wide.

Characteristic of the frame is the possibility for fine adjustment of housing temperatures, speeds, and tensions, with lamp annunciators indicating off-standard conditions. An automatic selvage opener, electric cloth guiding device, selvage guard, and stitch indicator are among the other devices which permit control of the goods in feeding them to the frame housing for tentering, drying, and/or setting or curing. The goods enter the machine after having been run through a manually operated weft straightener.

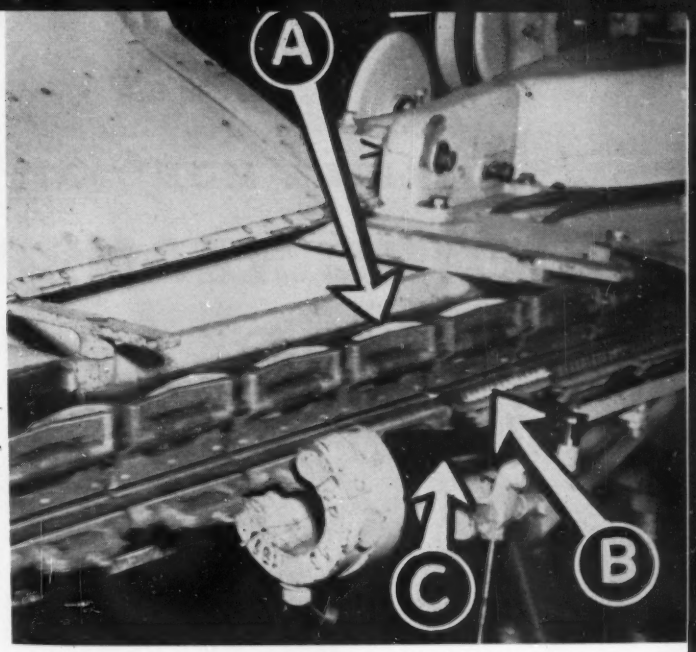
According to Walter Cormuss, plant manager, the seemingly numerous adjustment points on the machine required for accurate control of conditions are really not difficult to use.

Flow Of Goods. In framing 40-denier nylon tricot, a frequently run cloth at Binch, the unit serves to shrink and set the goods. They enter the frame from a manually operated weft straightener through the overfeed device. The overfeed supplies a length of goods to the chain in excess of its surface speed in order to compensate for lengthwise shrinkage.

Next, the goods enter the pinning-on device which contains

Tenter

lets H & F Binch do precision drying and curing on clips or pins



HOW CHAIN IS CONVERTED from clips to needles: Links moving on the outside of chain from right to left are running on clips A. Finger C pushes lever-like part containing pins B into play. One revolution of chain to this point prepares for running on pins.

automatic units to open or unroll selvages and guide the goods accurately onto the chain. The chain, run at 37 yards per minute for this class of goods, is set for pin running and moves into the housing which consists of five, 8-ft chambers set up in tandem and insulated against heat loss from within and air entry.

The first, second, and fifth chambers are steam heated and normally used for drying; the third and fourth are electrically heated and are setting chambers.

Features of the Famatex Tenter

In the custom construction of these imported machines, the requirements of speed, length, and operation are considered to determine such details as widths, dimensions, and number, size, and type of drying chambers. There are, however, certain characteristics common to most Famatex installations:

OVERFEED: Controls consist of two wheels which regulate top roll speed of the feeder and the tension on the goods being fed. Overfeed can be regulated from 0 to 44%.

PINNING-ON (or clip feed): Combined in one unit that is attached to the chain feed point is a selvage straightening device, an electric fabric guider, and a pair of wheels that tamp the infeeding goods into the pins of the chain links. There is one of these units for each of the two chains. In addition to these controls, there are two lateral fine adjustments for each chain and a tension adjustment for the selvage opening device.

THE CHAIN: This term includes both a right and left hand, endless rotating continuation of links, which either grasp or hold by a pinning action and thereby control the width and path of the goods. Included in the controls are several speed and lateral position adjustments, complete covering of top and outside of chains with guards, start button which accelerates chain speed in stepless fashion, and a stopping device which stops movement of goods within 3-4 yards. A speedometer registers continuously.

Chain links consist of a combination of a clip and a row of needles. The links are converted from one holding device to another while the machine is running empty by swinging the needles in or out of play. Clip opening is done gradually through a convexly contoured clip top.

Selvage guards in the feeding section stop the chain when they hit an improperly pinned or clipped selvage.

THE LUMOGRAPH: Unique feature for adjusting overfeed is this stitch indicator which "counts" stitches in knitted goods by registering light flow through the goods on a screen above the housing. After overfeed has been adjusted correctly, the Lumograph provides a measure which can be referred to for future adjustment.

THE HOUSING: This includes the chambers in which the goods are dried, set, or cured, or combinations of the three. Each chamber houses two motors on opposite sides; one drives the chain, the other drives four fans which bring air into the chamber.

Guards at the feed and delivery of the housing prevent air leakage. Fabric width at both ends is registered continuously on gauges placed at those points.

Heating is by means of radiators which circulate steam or electrically heated air. Cooling is prevented by placement of radiators both above and below the path of the goods and by placing the heated air intakes at opposite ends so that cool-down cancels itself out.

Where steam is used for heating, an average of 1.45 pounds of steam are required to evaporate 1 pound of water.

Temperature controls are usually mounted on a panel board; these controls can be preset.

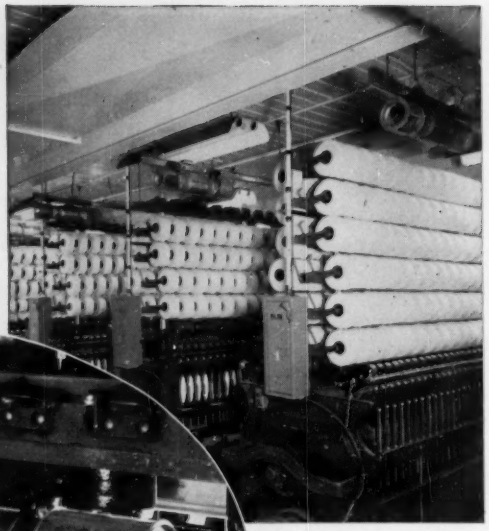
SPEED: Mechanically, the tenter can operate at speeds up to 250 yards per minute; the speed however is governed by the drying and/or setting capabilities of the housing to meet requirements of individual cases.

AMERICAN MONORAIL

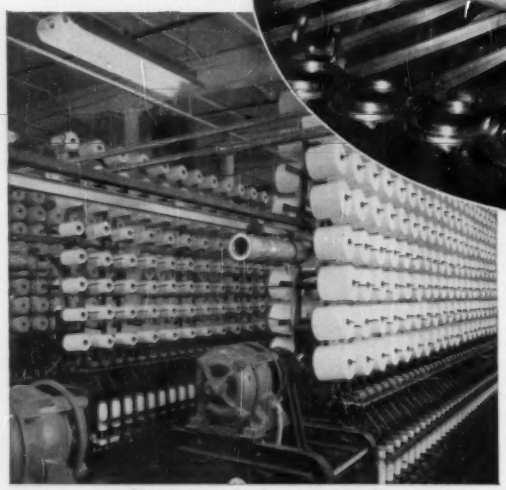
MONOCLEANER

for

Hard-to-Clean Areas



Cleans ceilings under low headroom conditions.



Cleans extra high twister creels.

Cleans frames with Pneumafil.

- The American MonoRail MonoCleaner originally designed for under frame cleaning is now being used for many other applications in hard-to-clean areas. For instance, it now successfully cleans:

. . . . low headroom ceiling areas.
. . . . extremely high twister creels.
. . . . under high speed winders.
. . . . under frames with Pneumafil.

If you have a "hard-to-clean area" why not investigate the American MonoRail MonoCleaner? An American MonoRail engineer will be glad to consult with you.

Write for Bulletin UC-1.
It tells all the advantages of the
American MonoRail MonoCleaner.

AMERICAN OVERHEAD HANDLING EQUIPMENT

MONORAIL COMPANY

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For the nylon tricot, the first two chambers are heated to 320 F, three and four are at 400 F, and the last is run at room temperature for cooling. Shrinkage and setting occurs in the housing by control of chain widths in individual chambers and the heat applied to the goods.

The width is brought down gradually by alternate wide and narrow settings; the setting in the last chamber is the finished width desired. The chain carries the goods out of the housing and down an open stretch to the folder.

In certain cases, particularly when running acetate, it is desirable, for purposes of the hand of the goods, to cool and condition them as they leave the clips or pins at the delivery of the tenter. For this purpose there is a lattice beneath the frame running from the end of the chain back under the housing. The goods ride on the lattice from back to front and then back again while being exposed to cooled and conditioned air.

There are a few attachments at the delivery end of the tenter which are used by the Binch plant to finish-up the goods. One is a selvage slicer which removes the selvages continuously, and the other is a cutting device for the body of the goods to split its width to specifications.

Maintenance. It is almost never necessary to enter the housing to maintain the tenter: all motors and adjustments are controlled and lubricated from the outside. Clip bolt edges require sharpening occasionally, and air filter screens, which slide into each chamber of the housing to clean incoming air, are cleaned once each shift.

Personnel. The Binch mill trained a crew to operate the tenter in one week and that crew in turn trained another crew in a like time. Since a wide variety of goods are run at Binch, the normal complement of two machine tenders has had to be increased. Due to the precise nature of the machine, personnel were trained and are alerted to a high level of exactness in their work.

Tips for Quilling Filament Dacron

A bulletin recently issued by the Textile Fibers Department of E. I. du Pont de Nemours & Co., Inc., contained the following suggestions for quilling continuous filament "Dacron" polyester fiber:

1. Quill directly from twister spools, cones, and bobbins; however, when yarn take-off is over end of flanged package, use some type of smooth cap to prevent snagging of yarn.

2. Twist-set filling yarns with 2½ tpi and up prior to quilling.

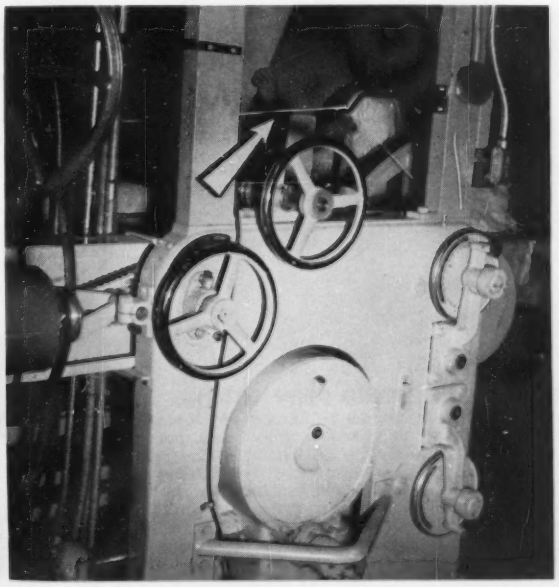
3. An antistatic agent, such as "Ortholube" STS (product of American Aniline & Extract Co., Philadelphia), is frequently applied by roll or by wick to reduce static difficulties. Relative humidities of 55% to 70% are suggested.

4. Use the lowest tension that will provide stable quills. Suggested quilling tension is approximately 0.3 grams/denier. To minimize quill junctions, maintain tension uniformity from quill to quill and within a quill.

5. The Kidde disc tension device is regarded as the best for use in quilling Dacron; however, the gate and Universal, Winding Co. disc tension devices have also been satisfactory whenever their yarn contacting surfaces are matte finished (available from Steel Heddle Mfg. Co., Philadelphia) or are prepared from hard ceramics (such as those available from American Lava Corp., Chattanooga, Tenn.; Heany Industrial Ceramics Corp., New Haven, Conn.: or Linde Air Products Co., New York, N. Y.).

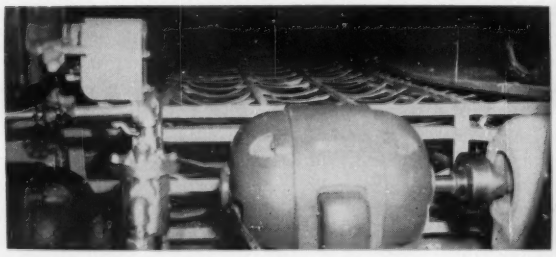
6. Do not use pinch tension device.

7. Do not tie knots during quilling operation — they can cause tight picks and filling bands.



OPERATOR at delivery end communicates with front end tender by hand signal and telephone. Note selvage being drawn (arrow) from special selvage-cutting attachment.

LATTICE beneath tenter housing is used on acetate goods and other fabrics when cooling, conditioning, and hand improvement are desired.



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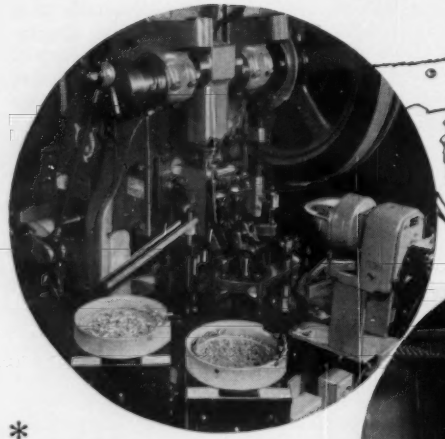

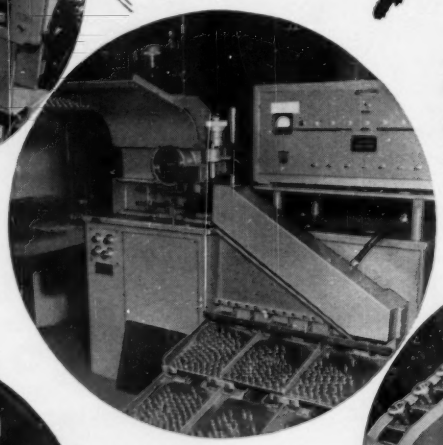

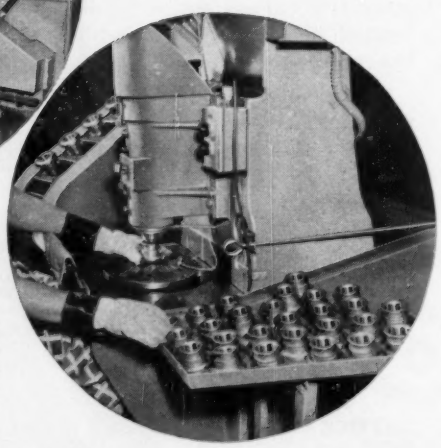

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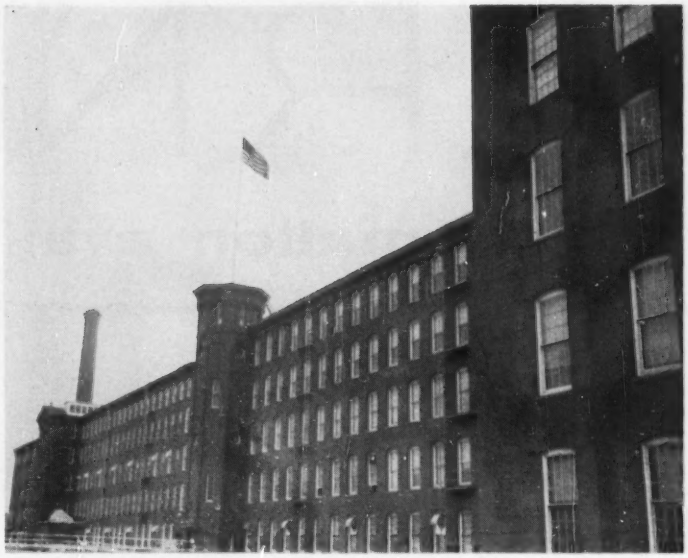

Merrimack's Industrial Relations Program

How management-employee cooperation keeps an old New England company competitive.

ANYONE visiting the mill exhibits at the N.A.C.M. Centennial celebration held in Boston in the spring of 1954 would have noticed two unusual statements made on one of the signs marking the booth of the Merrimack Manufacturing Co., Lowell, Mass. One, it "is one of the oldest continuously operating manufacturing plants in the United States," and two, "it looks forward with confidence to its progressive future in Lowell and in New England."

These statements were of interest when one considers that the textile industry has gone through a stringent period and that the South has received much publicity as a more salubrious environment for the operation of textiles.

It is common knowledge that several plants in New England have either liquidated or have migrated to the South; and here was a plant which had been operating in New England for a long time, expressing faith in the textile industry and the New England area. This was a new and optimistic note.

The exhibit was an example of a plant- and community-wide public relations program being carried out by the personnel department of the company under the direction of Frank Maria; it is based on three of his philosophies of management:

1. *Positive management action and leadership, with special emphasis upon industrial relations and public relations.* Management must recognize and act on the premise that of the three factors of production — material, machine, and man—man is by far the most important; in other words, that business is people. The customers who buy the product; employees, who determine the efficiency of the company and quality of the product; supervisors, who have the responsibility of group leadership; unions, who can be a burden or a help to the company; legislators, government administrators, and public citizens, who control the industrial environment of the community, *all are people.*

Because business is people, and dealing with people involves the science of human relations, the progressive textile plant usually has on its board of directors in a top management policy-making position a thoroughly competent executive, expert in the field of human relations. His job is to help formulate sound, constructive personnel policies and to keep in focus for intelligent management and ownership decisions the facts concerning people.

Public relations today has become an important part of any plant's industrial relations program. Modern management has recognized that it is not just sufficient to do good but that you must tell people that you are doing good, and that good public relations begins first with one's employees.

2. *Union cooperation and understanding.* The initial and basic responsibility for the survival of any industry is management's. Also, in the long run, management gets the union that it deserves.

However, unions have a definite responsibility for the survival of industry. This is particularly true of the textile industry in New England. The survival of textile unions is completely involved with the survival of the New England textile industry. There is no point in sawing off the limb, since both

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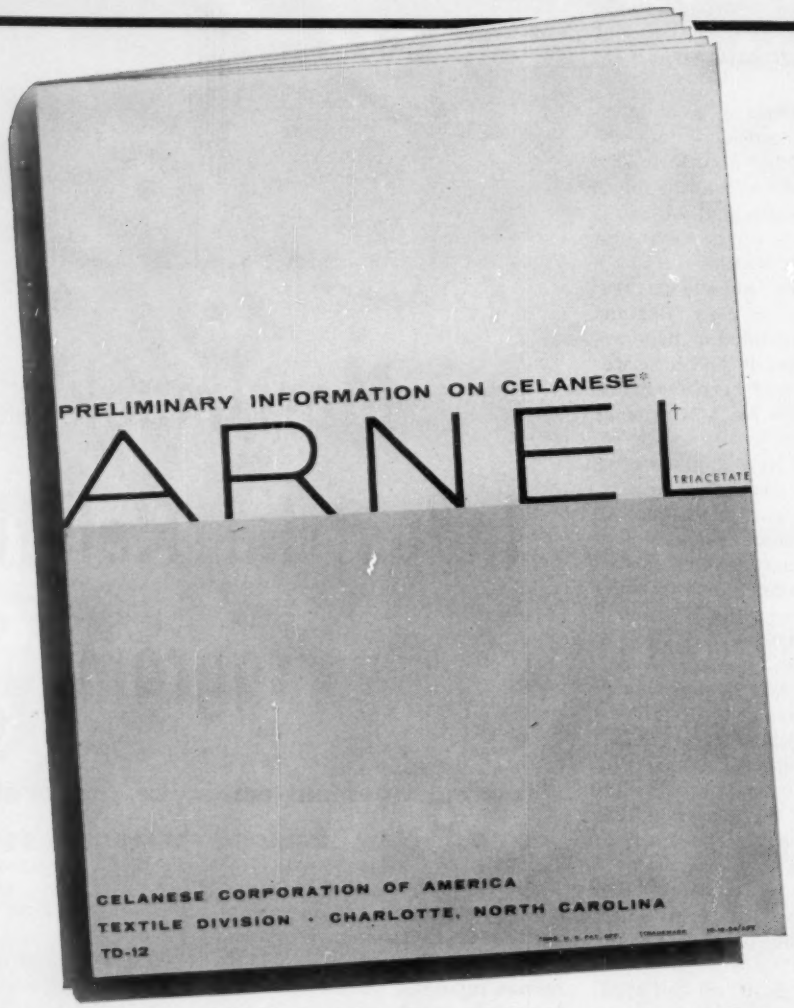

The basic data on Celanese* Arnel triacetate is now available to the trade in booklet form. Physical and chemical characteristics, performance, processing procedures and indicated end-products of the new fiber are described. Although application techniques are constantly being developed, this booklet serves as a preliminary introduction to the fiber and its applications. For a copy, write to the district sales office nearest to you.

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labor and management are on it.

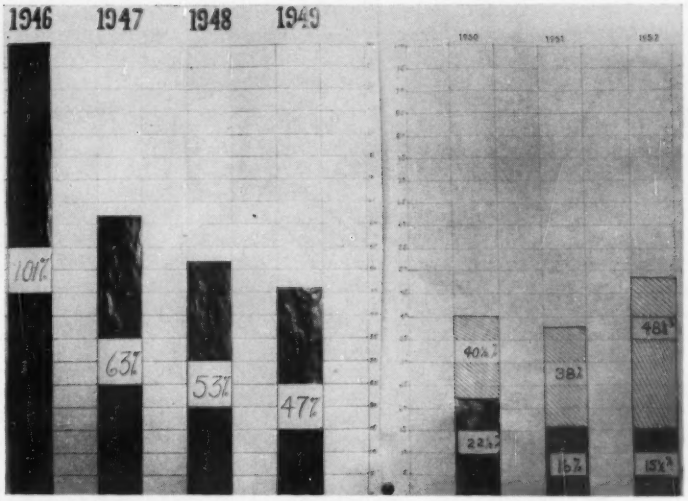
3. *Community good will and cooperation.* The public needs to appreciate the importance and value of the textile industry. Public opinion can favorably influence attitude and efficiency in the plant and can on a broader scale discourage unfair labor legislation and encourage fair tariffs. This can be brought about by the creation of community good will and cooperation.

What the Program Has Done. Statistically, the industrial relations program under Mr. Maria has helped to increase efficiency in several areas of the plant operation since he assumed responsibility in 1946. In terms of performance of employees at the Merrimack, absenteeism has been reduced to .05 per cent. The company has estimated that it costs 1½ times the employee's pay if he is absent. Thus, the marked reduction in absenteeism, which has been possible because of the personnel program, is a definite savings to the company.

Employees' turnover in 1946 was 101 per cent. Training costs in teaching textile skills to new employees can run anywhere from $400 to $1,000. Naturally, this turnover was a major cost leak. In the first year that the program was in operation, turnover was reduced to 63 per cent; the second year, to 53 per cent; the third year, 47 per cent; the fourth year, 22½ per cent; fifth year, 16 per cent; and the sixth year, to the final low of 15½ per cent.

Through reduction of accident frequency and severity rates to 7.82 frequency (about 1.6 below the industry average) and .20 severity (.14 below the industry average) the company was able to save over $30,000, comparing figures for 1953 against those of previous years. Based upon the generally accepted formula that actual costs (compensation plus loss of production, retraining, administrative, etc.) are four times the Workmen's Compensation costs, then the actual savings to the company probably amounted to $120,000.

In the quality-cost picture, the caliber of employees seeking employment at the Merrimack has improved. This has been the result of the building of a reputation in the community as a good place to work.



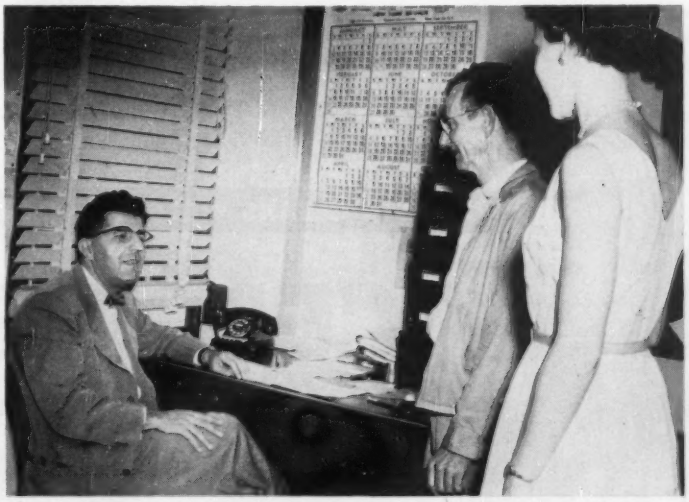
PLANT TURNOVER CHART in office of director of industrial relations shows sharp dip from 101 per cent at time of installation of program to 15.5 per cent in 1952. Solid black sections of bars represent hires and rehires; striped blocks indicate hires, rehires, and returns.

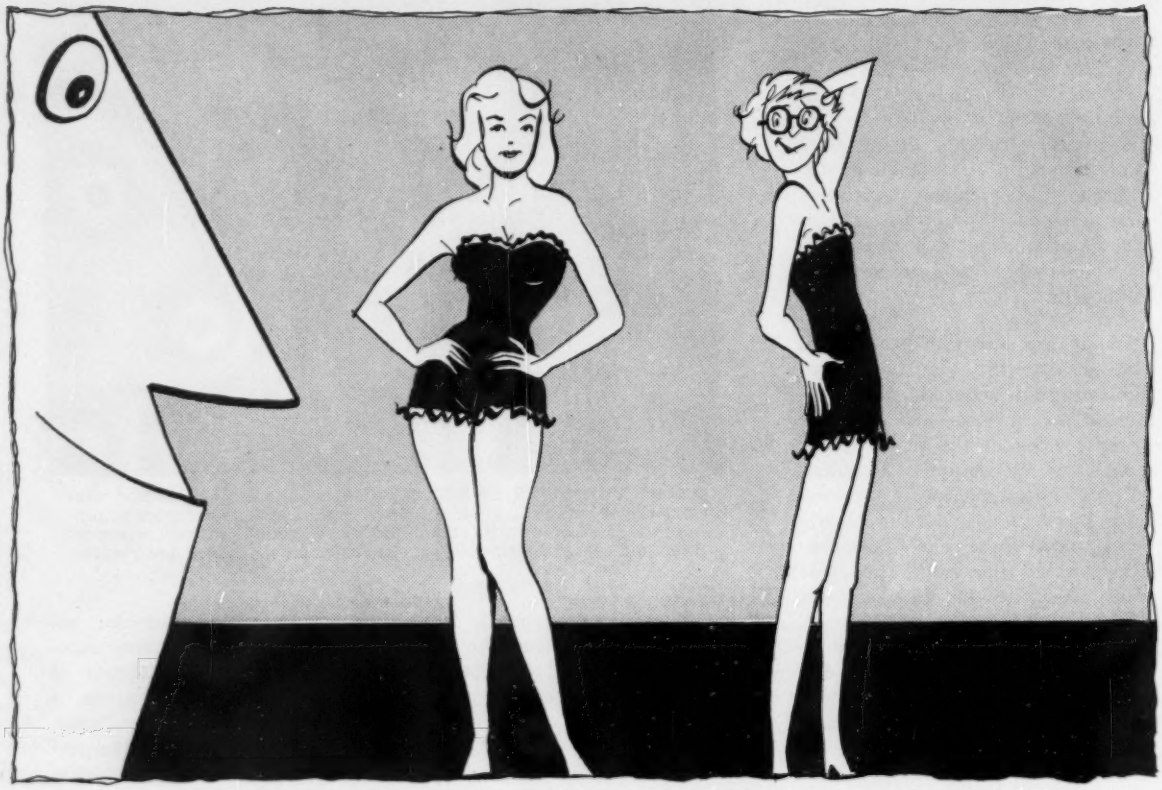
Further actual studies have credited the personnel program with 90 per cent of the job done in securing acceptance of recently installed workload extensions in the plant.

How the Program Works. Physically, the personnel department administers this work through a staff of nine people: director, assistant director, employment manager, safety director, captain of the guard, a registered nurse, a first aider, and two secretaries. However, any member of the personnel department will quickly tell you that the success of the program depends upon the way the supervisors carry out personnel policy.

The department itself has been granted authority to screen applicants for employment, to serve as staff advisor for all employees

PROSPECTIVE EMPLOYEE is given personal attention. Here employment manager greets job seeker brought into his office by receptionist.





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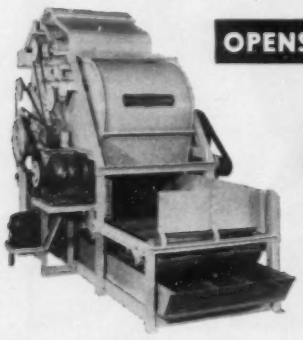

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in interpreting company rulings and union contract regulations, to represent management in across-the-table discussions with the union, to formulate personnel policies, to negotiate the union contract, to supervise a safety program, to guide, through a secretarial relationship, the activities of the Merrimack Employees Recreation Association and the Credit Union, to handle the details concerning employee benefits and services such as group insurance, etc., to participate in the administration of the Jacob Ziskind Memorial Scholarship, to maintain personnel records and data, and to promote community-wide public relations activities.

Basic to the administration of these duties is an approach practiced by all members of the personnel staff, whether it comes to interviewing an applicant, settling a difference, or organizing a promotional or recreational facility. This approach includes first getting the other fellow's story, getting his point of view, understanding what he thinks and what he wants.

It would be folly for a personnel department to try to service personnel in a way that the department thinks they should be serviced without finding out what the people want. Situations can develop in much the same way as the indignation of an elderly woman when a boy scout insists on helping her across the street when she didn't want to go.

In cases where the individual is requesting or making a complaint against a situation which has been determined by union or company rule, he is at least heard and thus given a chance to get the complaint off his chest, even if the decision cannot be made in his favor.

Screening Employment Applicants. Except in the screening of people for clerical jobs, no aptitude testing program is used to fill the average job at Merrimack. Rather, a short application form, requiring about five minutes to fill out, is given every person who seeks employment, regardless of the work available. The card contains information covering name, address, 'phone, physical defects, last worked at, experience, and remarks, plus a personal rating given by the interviewer. White cards are used for women; blue for men.

The employment manager, in filling a job opening, will go through these cards, make some selections, and call the last place of employment to get data on them. If there is a problem, he will go further in his search. He selects the most likely applicant from the list and recommends him to the overseer who does the actual hiring.

Each applicant who visits the employment office is treated with courtesy and consideration and is granted a brief interview based upon the short application form. The Merrimack recognizes that a person seeking a job is one who is sensitive and who appreciates consideration. A job is such an important part of a person that one who is without a job is usually not quite himself.

In its consideration of people who apply for employment, the employment department even goes as far as referring them to other companies when employment opportunities are not available at the Merrimack. Needless to say, such an employment policy has played an important part in the community public relations results that the Merrimack has achieved.

Advisory and Communications Work. Once an employee is working, the personnel department is at his disposal to answer questions and register complaints. This includes supervisory personnel. Caution is taken, however, to make sure that complaints follow prescribed procedures of first reporting the complaint to the supervisor. The complainant is nevertheless listened to confidentially. Much of this counseling work centers around explanation and interpretation of the company-union agreement.

In cases where management develops a new program such as workload extensions, the department conditions employees for acceptance in advance by explaining it: the need for it, proving its fairness, showing the way it works, listening to objections, investigating the objections, and giving answers satisfactory to the employees. Such communications are transmitted verbally, the feeling being that this is the only way to explain something readily, because of the opportunity for expression by both the spokesman and the employees.

AROUND-THE-TABLE grievance meeting amicably thrashes out a seniority problem. Left to right are Mr. Forsythe, plant manufacturing superintendent; Frank Maria, director of industrial relations; John Brennan, company union representative; the union president; and spinning frame operators who have filed the grievance.

Representing Management in Union Affairs. Technically, department director Frank Maria is responsible for final company decision on all grievances that have reached him through a line organization of procedure. This starts with the complaint of the employee to departmental supervisor. In the event of non-settlement, the grievance is taken to the overseer, superintendent, and then personnel director. Usually the union business agent is present at the final grievance hearing at the company level, and as the situation dictates, stewards, grievance committee members, and members of the union executive board participate in the procedure.

Two principles are recognized

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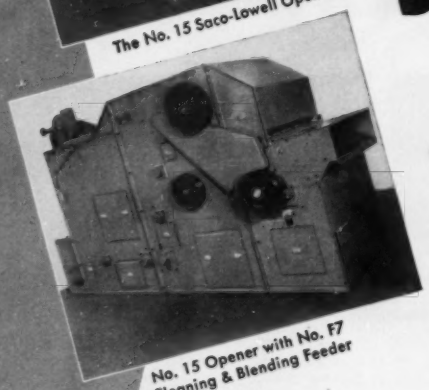

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No. 15 & No. F7 — Illustrating Connecting Pipe & Main Trunk to No. 11 Dust & Waste Extractor

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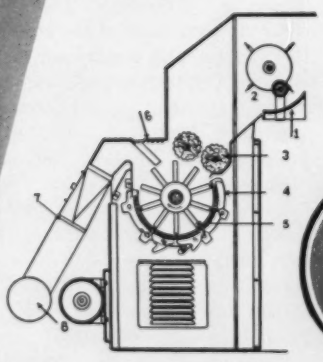
In *actual test* the new Saco-Lowell No. 15 Opener increased the amount of waste extracted by the opening line from 1.245% to 1.560%, an increase of 25.3%. This marked increase during the first cleaning process resulted in the removal of heavy impurities which heretofore were broken up and powdered, thereby making later extraction difficult and costly.

Increased cleaning in the opening line can be attained with the installation of the Saco-Lowell No. 15 Opener.

A *technical bulletin* describing the new Saco-Lowell No. 15 Opener is *available on request.*



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by the department in this duty:

1. The interests of the company and the union are identical, i.e. the successful operation of the company.

2. Cooperation does not mean consistent agreement or the relinquishing of company or union prerogatives: the company's right to management leadership, or the union's right to represent the welfare of employees. It does mean a high degree of resolution of disagreements, honorably and justly.

Periodically the department head meets with the executive board of the union, a 10-man group, to discuss general questions and complaints across the table. This includes, on occasion, the head of the company, who presents a picture of over-all conditions, such as the economic picture, followed by recommendations by the union.

The industrial relations director and personnel manager, Frank Maria, represents the company in union contract negotiations. Preparations for negotiating the next contract are actually started the day the present contract goes into effect. As progress with the contract indicates need for revision or addition, these things are noted for future consideration. A few months previous to the negotiation of the contract, supervisory conferences on the contract are held, and the supervisors are asked to make recommendations for the elimination, revision, and the inclusion of new clauses in the contract.

The recommendations of the supervisors and the recommendations of the personnel division are finally taken up with top management, and the final list of company proposals are agreed upon.

Permission is secured from the union to have the supervisors sit in occasionally on union contract negotiations, and after the contract has been negotiated, conferences are held for the purpose of discussing the new contract.

Since the supervisors have to administer the contract, they take part in the formulating, and their recommendations are enthusiastically received. They are given an appreciation of the problem of contract negotiations and are instructed in the meaning of the contract.

COUNSELLING SESSIONS are an important part of the program. Here Mr. Marriott, warping foreman, gets advice on union agreement procedure from Mr. Maria.

Both from a union and company standpoint, the Merrimack contract is considered one of the best in the business. While protecting the union and the employees, it avoids being a burden competitively on management. The company religiously strives to avoid agreeing to things which, although they may look good as "show" pieces in the contract, actually do not serve to help the employees nor the company in its struggle for survival.

For example, the company may agree to pay time-and-a-half or double-time for several particular days and then not work those days because it is not feasible from a cost standpoint. The employees lose the opportunity for work on these days, the company is burdened competitively by not being able to get its production out, and nobody benefits except that the clause looks good in the union contract.

Safety Program. In conjunction with a training program to handle a job safely on the production floor, the department arranges for posters and safety meetings which center safety responsibility at the supervisory level.

Industrial accident claims are reviewed in the department, with approval being granted on doubtful cases where an employee has an honest history, and fought where illegitimate claims are suspected.

The Merrimack Employees' Recreation Association. This is the heart of the employee relations program. A committee of employees, two from each plant division—manufacturing, finishing, maintenance, and office, plus a member of the personnel department—makes up the board of directors of the association. This group, under the guidance of the personnel director, administers the program, which consists of sponsoring parties, athletics, outings, a blood bank, and a bowling alley, which is operated as a regular business in the community.

The Association is self-supporting. Its income is derived from a $1.00 a year dues from each employee and the profits from vending machines in the plant. Management has no financial responsibilities in the association.

Regular softball, basketball, and bowling league participation is sponsored, including equipment. At the disposal of employees are a number of golf bags which they can borrow.

The bowling alleys have been leased on a five-year basis under a corporate set-up with the association being the chief stockholder. All profits revert to the association; the enterprise averages a 4 per cent return.

The employees pride themselves in the fact that they have never found it necessary to request financial support for their activities from management.

(Continued on page 143)

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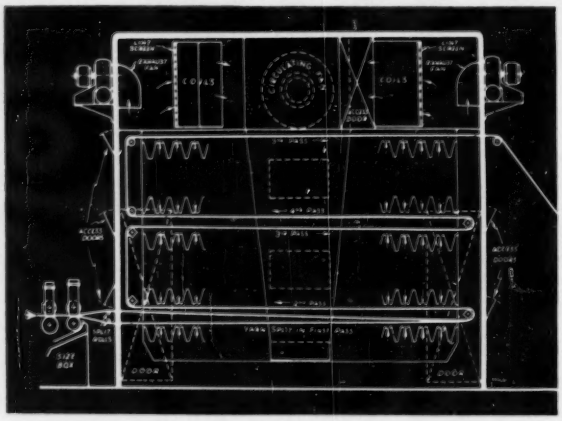

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Silicones Make Cottons Water Repellent

By Alton A. Cook and Nat C. Shane
Arkansas Co., Inc.

Silicone water repellents have been successfully used for several years on fabrics made from synthetic fibers, but the effect of their application to cotton fabrics is not as well known, since silicones of a suitable type were not readily available until recently.

Recent work in the laboratories of the Arkansas Co. and at several finishing plants with Hydro-Pruf, trade name of the Arkansas Co.'s silicone water repellent, have yielded interesting although incomplete data.

Method of Application. There is no difference between the application of silicone water repellents to cotton fabrics and their application to synthetic fabrics; they may be applied on conventional equipment found in most finishing plants.

The fabric must be properly prepared by the usual procedures of removing the impurities natural to cotton, as well as all sizing agents which may be present. If the fabric has been dyed, all surface active agents remaining in the fabric must be removed by a thorough rinsing in hot water.

For best results the cloth should be adjusted to neutral or slightly acid. A pH range of 6 to 7 is favored.

The silicone water repellents are usually applied in the form of an aqueous emulsion in a similar manner to any ordinary finishing agent on conventional equipment, in such a way as to obtain maximum pickup. After a heavy squeeze the fabric is dried thoroughly and is then cured at 320 F for 5 to 8 minutes. Somewhat higher or lower temperatures may be used if the time factor is adjusted accordingly.

It is essential to use a catalyst suitable for the particular type of silicone involved.

Type of Silicones Used. Silicones containing a substantial proportion of methyl hydrogen polysiloxane are suitable for most applications.

In some cases, this component in combination with other types of polysiloxanes is satisfactory.

Catalysts. Certain metallic compounds have been commonly used as catalysts in the application of silicone water repellents; these include tin and zinc compounds of several different aliphatic acids.

Other compounds are under study, but no conclusive results have yet been reached.

Properties of Silicone-Treated Fabrics. Fabrics treated with a silicone water repellent stand up well under a moderately severe wash test (0.5 per cent anhydrous soap at 160 F for 90 minutes), showing a spray rating of at least 70 after such a wash. The silicones are sensitive to strongly acid conditions.

For satisfactory durability to laundering and dry cleaning, a silicone water repellent content of at least 1 per cent on the weight of the fabric is required.

Generally speaking, cotton fabrics treated with silicone water repellents have a somewhat lower tensile strength than that of corresponding untreated fabrics, probably because of the high temperatures used in curing.

The abrasion resistance of cotton fabrics treated with silicones shows a marked improvement over untreated fabrics, as determined by the Stoll Flex Tester. When used with thermosetting resins, the silicone water repellents provide improved abrasion resistance as compared with the resin treatment alone.

No information is available concerning the effect on tear strength.

Abstract of a paper presented at the Third Chemical Finishing Conference, sponsored by the National Cotton Council of America.

(Continued from page 141)

The Jacob Ziskind Memorial Scholarship. Another instance of personnel department guidance is this scholarship plan, which originated with the desire of Merrimack employees to honor their late employer, who died in 1950.

The scholarship is administered jointly by the president of the recreation association, the president of Lowell Technological Institute, and the president of the union. Funds are raised throughout the plant by means of a separate pledge.

There is one four-year scholarship granted each year, depending on available funds. Application for it is made at the Lowell school and preference is given to Merrimack employees and their relatives, although there is no such limitation.

The personnel department usually arranges for employment of scholarship recipients at the plant during summer months.

The scholarship is unique; it is probably the only one of its kind in the country sponsored by employees—spinners, weavers, etc.—in memory of their late employer.

Community Public Relations Work. Tied in with the job of keeping the reputation and name of Merrimack prominent in the community through the press, radio, and public appearances, is participation by the director of the department in a regional effort to keep the textile industry in New England. Also, Merrimack executives identify themselves consistently with community activities, being leaders in many church, civic, and charitable ventures. The plant itself contributes heavily to philanthropic organizations.

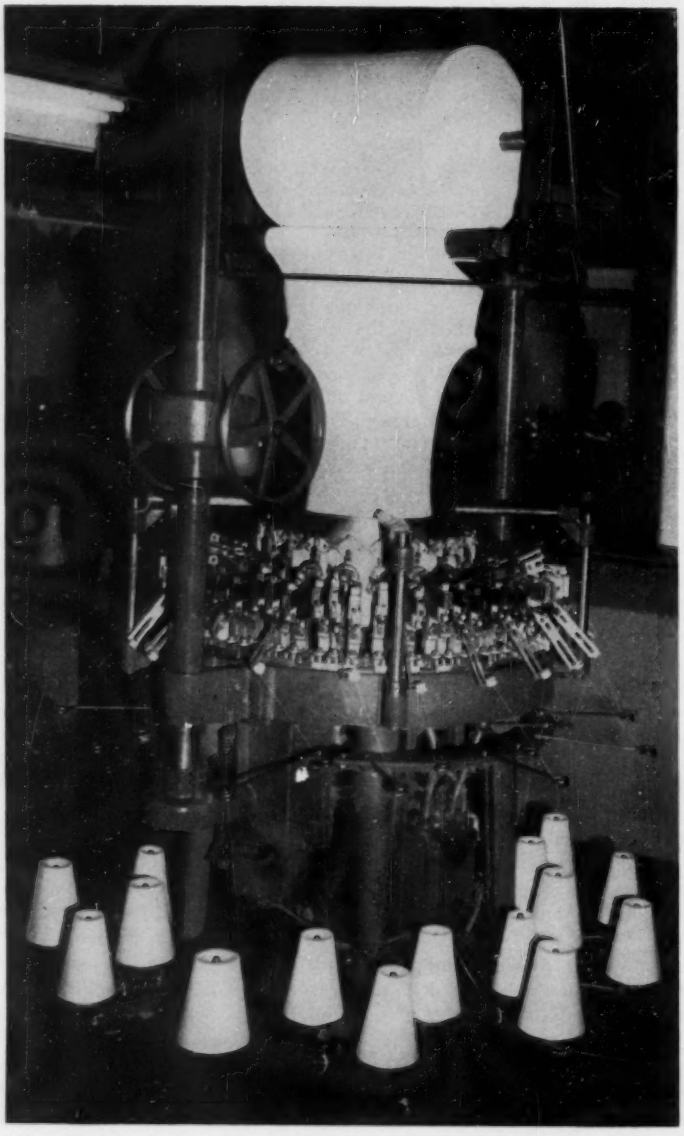
In the community, a department store window has been devoted to display of Merrimack products. Featured in this promotional effort are several points: the age of the organization, the fact that it is Lowell's largest industry, that it is progressive, that it intends to stay in New England, and that it makes the world's finest corduroys and velveteens.

A NEW SPRING NEEDLE KNITTING MACHINE PROVIDES

QUALITY PLUS QUANTITY

Staff Prepared

EXCLUSIVE



SINCE June 1954, the Ford Manufacturing Division of Robert Reis & Company, Waterford, N. Y., has been knitting a 28-gauge balbriggan on the first installation of the 20-inch Precision Knitting Machine Company's spring needle machine.

The unit, designed by Raymond H. Carhart of Precision after 20 years of development, is, under the same conditions of cloth construction but not machine age, producing about 3 times the normal poundage output at Ford. Along with this, press-offs and other imperfection sources have been reduced; the circular goods being knit on the Precision machine have a characteristic loft not found in other Ford balbriggaa production.

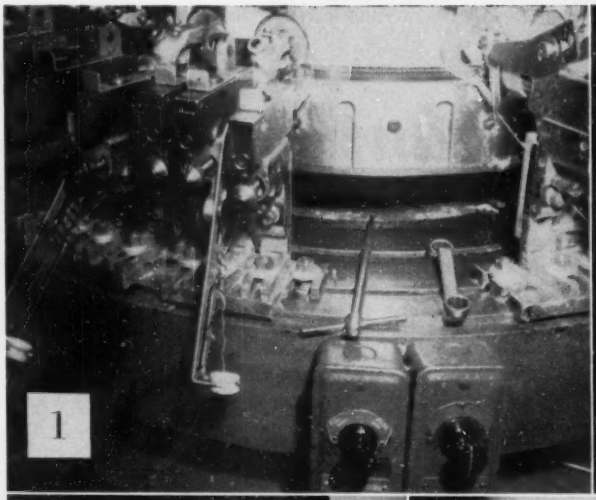
As an example of the contrast of these conditions with the daily routine in the mill, the knitter tending the new unit became concerned when the machine did not stop during an afternoon. The cloth roll was removed from the machine, 898 feet of goods were inspected, and only one imperfection was found.

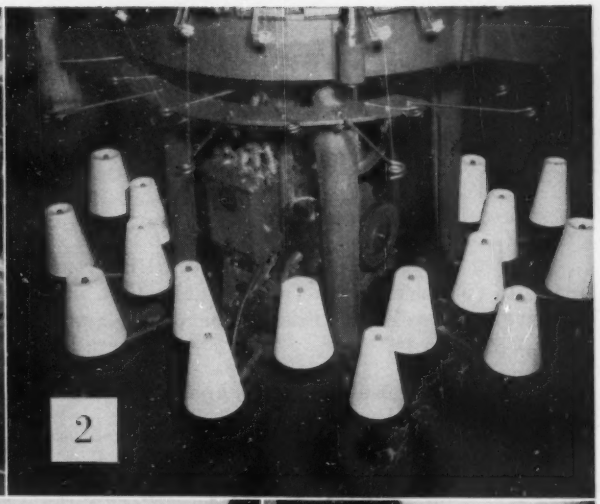
Production. The balbriggan is knit 28 gauge with 38 stitches per inch, using the 20-inch diameter table adjustment at 90 rpm cylinder speed on 26s CP cotton yarn (not rewound).

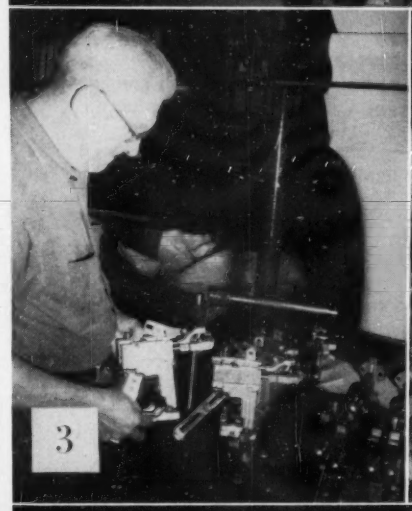
The machine is doffed, oiled-up blown-off, and tailed-up every 4 hours. According to Ford plant manager I. F. Baker, no unusual treatment is given the pilot machine; creeling differs from normal procedure only in that 20 cones at a time are put on the floor level feeds so that they run out together.

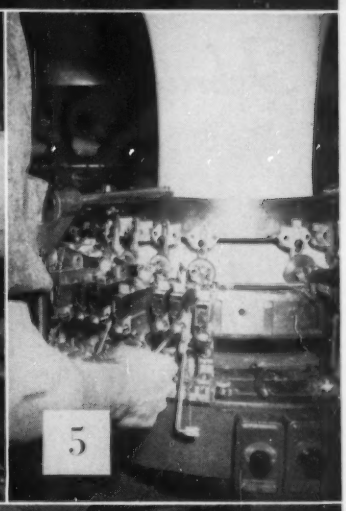
On the style cited, a production of 45 pounds per 2-hour period has been commonly observed. The work loads for this increased production machine have not yet been established.

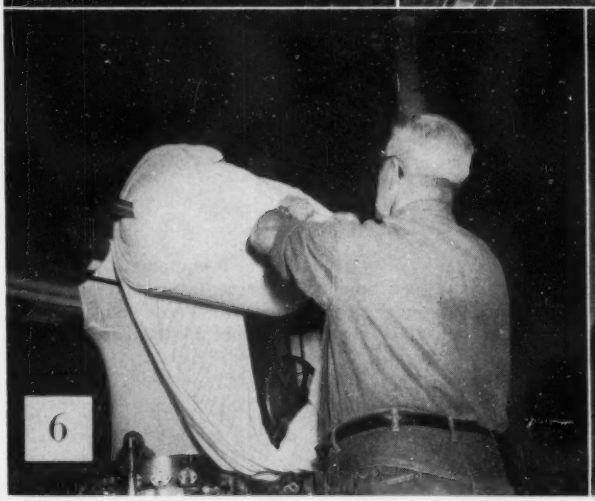
Quality. The Ford quality control system, while not described here, has determined that there are certain quality advantages in the use of the high speed machine. These are twofold: improved hand and appearance of cloth, and re-











1. ALL ADJUSTMENTS are made with two tools: a T-handle Allen wrench and a ½-inch box wrench.

2. CREELING is at floor level; 20 cones are put on at one time so that they run out together.

3. INDIVIDUAL FEED STAND SECTIONS can be removed independently of the other 19 feeds.

4. STOP-MOTION, controlled by toggle switch, is on every other feed of the machine.

5. CLEARING STAND, together with stitch and presser stand, is adjusted to obtain stitch variations.

6. DOFFING is at shoulder level. Cloth rolls usually weigh about 50 pounds at the Ford plant.

7. MANUAL OPERATION is possible with a pair of hand wheels. These can not be turned in wrong direction.

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Every month TEXTILE INDUSTRIES reaches the largest and most responsive mill audience of any Textile Publication. As a reader, you are one of a select group of mill executives, supervisors, and others who are "on the way up", or already on top.

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February

The Seventh Annual Case History Reports Issue—Compiled from mills and suppliers. Factual stories telling how mills have used equipment to increase production, reduce costs, improve quality, etc. The most valuable practical issue of the year, it offers a remarkable opportunity to mill men who have their attentions focused on the value of specific new and improved equipment.

April

Knitting Issue—Covering the 42nd Knitting Arts Exhibition to be held in Atlantic City, April 25-29. TEXTILE INDUSTRIES' April issue will feature special articles of interest to the knitting industry—news about materials, methods, and machinery—either specific knitting equipment and supplies or general industrial equipment.

September

Wet Processing Issue—Covering the 34th Annual Meeting of the American Association of Textile Chemists and Colorists to be held in Atlantic City, September 21-23. TEXTILE INDUSTRIES regularly carries more feature material on wet processing and reaches more chemists, dyers and finishers than any other general textile magazine. This issue, with heavy emphasis on dyeing, bleaching, and finishing, will be of interest not only to AATCC members, but to the full wet processing trade as well.

November

16th Modern Equipment and Processing Review—Information on new equipment, accessories, and services made available or improved during the preceding twelve months. Started as a biennial review in 1931, reader response made this feature an Annual Issue—the biggest and best-read Directory of New Equipment in the industry.

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Details of the Precision Spring-Needle Knitting Machine

Creeling. Cones are placed on floor level bracket holders; they are generally "tailed up" in two cone groups.

Feeds. All feed stands are copper-nickel-chrome plated; all adjustments are made with two wrenches, all but one with a T-handle Allen wrench.

The feeds, which are numbered, occupy 3 inches on the cylinder circumference when set up for balbriggan knit. Stitch and clearing burrs and presser are adjustable up and down by means of a rack and pinion, and in and out, to and from the cylinder, by a calibrated wheel. The sinker burrs are mounted on spring brackets.

Feeds can be removed without disturbing other feeds or requiring machine shutdown.

Cloth Wheels. These wheels are grooved and mounted on an inside ring. The grooves are used with micro-switch fingers which ride in them; these are set up on every other feed so that when the finger hits a hole, birdseye, or a needle break, the finger activates a switch and stops the cylinder within 3 inches of movement.

There is a stop-motion, controlled by a toggle switch, on every other feed of the machine. These can be cut out individually while the machine is being set up, which makes the work easier and reduces the time required.

The Cylinder. The cylinder is mounted on selected ball bearings in a table machined to contain 3 concentric grooves for feed and cylinder flexibility of adjustment, ranging from 12 to 24 inches (a 38-inch machine is under construction).

Inside burrs are fitted with a guard to prevent the wheel from catching on holes. These burrs are adjustable for depth and angle by means of 2 jigs. Cylinder speeds up to 100 rpm are practical.

Hand Wheel. Manual location of trouble and start-up is possible by a pair of hand wheels; these can not be turned in the wrong direction.

Take-Up. Cloth rolls, usually weighing 50 pounds, are removable at shoulder height by means of unfolding arms in which the roll is held.

duction of imperfections to a new low.

It is felt that the smaller angle at which the cloth leaves the needles is responsible for knitting a fuller and loftier cloth, comparing the angle and hand of goods with other Ford balbriggan production of the same stitch formation.

In the imperfection picture, considering that yarn factors which can influence the production of such defects as slubs, fine ends, and weak places are equal, there is a measured improvement in quality through the elimination of 75 per cent of the mill's quarter-offs; further, these defect-producing breakdowns, which amount to about two per week, are generally due to human failure. There have been no complete press-offs.

Needle cutting and cloth marks due to needles have been eliminated. Some of this results from the fact that the machine being studied is new, and such improvement is characteristic of any new machine, but it is felt by the machine manufacturer that the elimination of leaded needles in favor of the trick type has eliminated much of this source of poor quality.

Needle manufacturers are working with the Precision company in developing a needle with temper characteristics which prevent the needle taking a set when it is sprung out of alignment for any reason.

Changing Over. Although work with the Precision machine at Ford has been confined to one style, cylinder circumferences ranging from 12 to 24 inches* can be knitted on the machine, through proper cylinder installation and adjustment of the feed by means of the three concentric feed-stand grooves in the table. Conventional stitch variations can be adjusted by grouping the stitch, clearing, and presser stands for the particular stitch and adjusting them. Because of the precise design of the feed, it is possible to control completely the length of the stitch — a unique feature.

Adjustments are made with two tools: a ½-inch box wrench works the connection of the stand to the table; and a T-handle Allen wrench adjusts all other points on the stand, including angle and pitch of all burrs, adjustment of burrs to cylinder, and rack and pinion height adjustment. The depth and angle of the inside burrs are adjusted to 2 jigs.

All types of spring needle-knit fabrics can be made on this machine, including pattern work, terry, and fleeces. In addition because of the number of feeds, a limited amount of striping can be done by proper arrangement of the cones of yarn on the machine.

Maintenance. Individual feed-stand sections are removed from the table of the Ford installation independently of the other 19 feeds; when cylinder work must be done, knitters go about it as they do with any other machine on the floor. Needle breakage to date has been insignificant.

When a cloth roll is doffed, the machine is blown down and lubricated. Lubrication consists of oiling the presser reservoir, stitch burrs, clearing wheels, and inside burrs.

Drive. The drive of the machine includes an electric brake and clutch manufactured by the Warner Electric Brake and Clutch Co., which makes possible easy starting and rapid stopping of the machine.

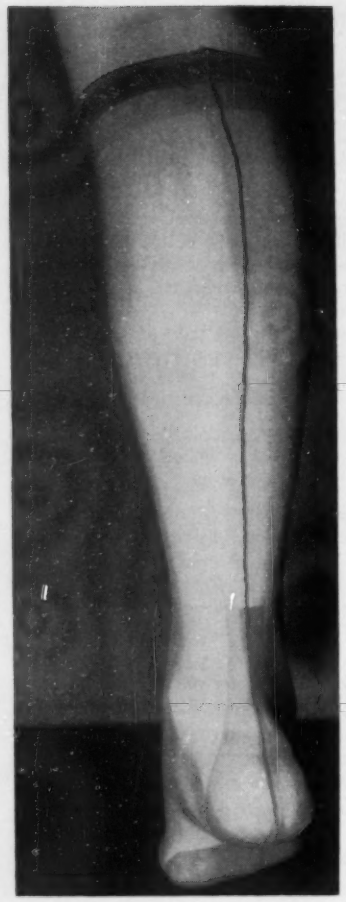
Power is activated through a 220-volt, 3-phase disconnect switch.

Future. The Ford plant is to receive eight of the new machines; their operating characteristics are expected to be about the same as those of the machine already installed.

*The Precision company has under construction a machine which will knit fabrics up to 38 inches.

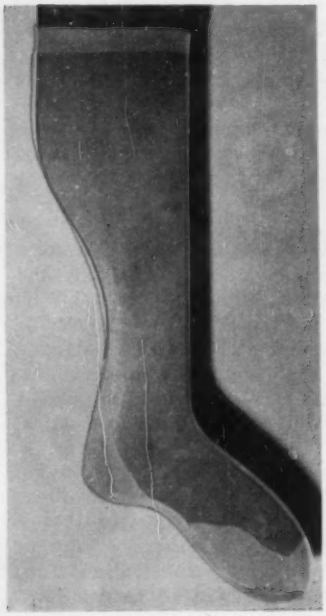
How Wisteria adapted its equipment to make

knee-length



1 **KNEE-LENGTH** stockings are full-fashioned, loopless-toe construction. Size 9½ finishes 18" long including band.

2 **SHORT HOSE ARE SEAMED** in the usual manner, starting at the toe and continuing up the leg to the welt; however, the welt is seamed all the way through the four plies without raising the fabric uncurler. Wisteria uses a Union Special Class 41,300 sewing machine for this operation.



3 **ELASTIC BANDS** are cut and sewed in one operation with Singer 246-3 overedger. Operative makes 9" band by doubling over from mark 4½" from edge of table.

full-fashioned hosiery

By Sam Boyer
Wisteria Hosiery Mills, Inc.

EXCLUSIVE

IN TODAY'S highly competitive hosiery market, quite often a sudden and unexpected demand for novel full-fashioned hosiery styles present many problems to the manufacturer. The problems arise from the standpoint of going into immediate production and making delivery of some novel style with which the manufacturer is not familiar, plus the fact that cost of style changing and training operators must be kept at a minimum in order to meet competitive selling prices.

One of the style trends today is a revival of knee-length hosiery. "Madam Fashion" is a fickle dame at best, so the hosiery manufacturer is confronted with the problem of whether or not he can buy the extra equipment required to produce knee-lengths, and sell enough of the goods to pay for such equipment before knee-length hosiery goes the way of all novel styles and production of it ceases.

System at Wisteria. In approaching the problem of producing knee-length hosiery, Wisteria Hosiery Mills chose a course of action that seems to be the most logical, and is as follows: existing equipment in the mill was adapted to the production of "Knee-High" hosiery, eliminating the necessity of purchasing special sewing machines; highly skilled operators were selected for the production jobs on the basis of their adaptability to this particular style; a very careful cost estimate of materials and an accurate estimate of labor cost was made before actual production began; the stockings were to be constructed of 15 denier nylon knitted on 51 gauge knitting machines, and the usual rigid quality control measures were to be applied in processing so that top-quality construction and finish would result.

The stockings are full-fashioned, of loopless-toe construction, and are fully coursed so that a standard size 9½ will finish about 18 inches long, including the attached band.

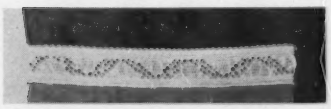
A ¾-inch welt is knitted on the top, and has a picot to make the two plies fold smoothly at the top for attaching the elastic bands. The actual construction can be seen by referring to illustration 1, where a seamed stocking, without the band attached, has been pulled on a plastic form.

Seaming. The stockings are seamed in the usual manner, starting at the toe and continuing up the leg to the welt; however, the welt is seamed all the way through the four plies without raising the fabric uncurler, as is shown in illustration 2. This is different from seaming a stocking in the conventional manner, where each outside ply is pulled out of the uncurler before seaming around the welt to the vent.

After the four plies of welt are seamed through the picot, the fabric uncurler is raised in the usual manner for inserting the next stocking toe.

The sewing machine shown in

4 **BAND IS CLIPPED,** leaving about 3/8" of seaming chain to prevent raveling. Clipper-type scissors are continuously held in operative's right hand.



5 **CONSTRUCTION** of elastic band is shown in close-up. Seam has 28 stitches per inch.

6 **ELASTIC BANDS** are attached to seamed stockings with Union Special Class 41,300 seaming machine, with fabric uncurler and puller plate removed. Band is placed bottom-edge up just inside stocking and band seam matched with stocking seam.

7 **STOCKING** and band are inserted into machine about 1" ahead of seam; presser-foot pedal is not used to open feed cups.

8 **BAND** is stretched to conform to size of welt; entire seam is sewed without stopping. About 16 stitches per inch are desirable.

the illustration is a Union Special Class 41,300, complete with thread ratio controls, fabric uncurler, and the combination puller plate and cutter. The Singer Hosiery Seamer 242-1 will do an equally effective seaming operation on the stocking.

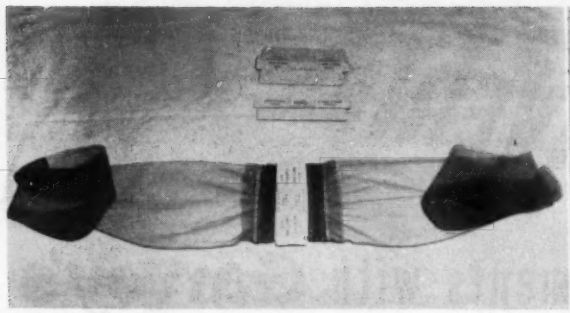
We have an average daily production of 75 dozen pairs of hosiery in 8 hours, after allowing a 10-minute recess in the morning and a like recess in the afternoon, making 7 hours and 40 minutes working time.

Elastic Bands. The next logical step is the cutting and sewing of elastic bands, which are to be attached to the tops of the knee-length stockings. This usually presents some problems to hosiery manufacturers. We solved the problem by using a Singer 246-3 overedger to cut and sew the bands in a single operation.

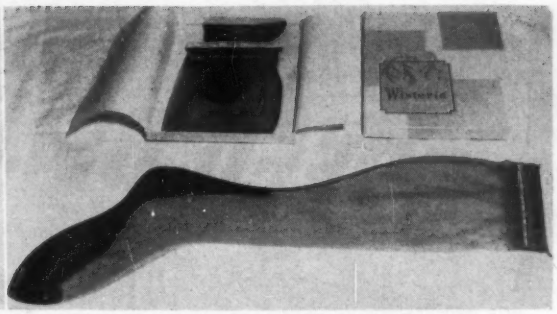
We use ¾-inch nylon elastic, which comes packed 4 rolls to the gross. A gross will produce 22½ dozen pairs of bands when the total length of each band equals 9 inches. An operator on the Singer overedger can cut and sew from 4 to 5 gross in 8 hours, which will average about 90 dozen pairs of bands daily.

Nylon bands should be used with nylon stockings, to avoid the use of the additional dyestuff which is necessary if rayon bands are used.

Referring to illustration 3: the operator measures off 9 inches of material to the left of her right thumb, then quickly laps the end back over the top of the material to 4½ inches as is shown by a faint mark on the table under the



9 **SPECIAL INSERT** holds elastic band in uniform shape. Top of picture shows unfolded insert, with folded insert directly below. Method of using insert to hold pair of stockings is shown at bottom.



10 **KNEE-LENGTH STOCKINGS** are held together at the insert by a fine rubber band, to prevent the insert from opening at the fold. Wisteria hosiery is packed as shown for maximum sales appeal.

small finger of her left hand. Pushing the material forward, she cuts it and sews the band in one complete operation.

After the band has been fed through the cutting and sewing mechanism, it is clipped loose from the chain of stitches. It is good practice for the operator to hold a pair of clipper-type scissors continuously in her right hand, as is illustrated in photo number 4; each band is clipped when completed, leaving about a 3/8-inch length of seaming chain to prevent raveling. Each band is then turned on the right side, and dropped into a container on the left side of the operator.

Another important motion of the operator, which saves time and increases production, is the retention of the cut end of stock material in the right hand during the entire measuring, cutting and sewing, and clipping operations. The roll of uncut elastic should rest in the operator's lap, with the end held in the palm of the right hand, under control of the third and small fingers, except when pulling the elastic from right to left for measuring. This eliminates the necessity of picking up the dropped end each time a band is cut and sewed.

The illustration in photo 5 shows the type of material used in our bands. Before making bands, samples of materials should be sewn and then tested for pulling out at the seam where joined together; 28 stitches per inch on a straight feed is suggested on this particular sewing machine.

There will be a slight waste on the cut end of material each time a band is made, so the sewed band will measure 4 3/8 inches on the inside, giving an 8 3/4-inch finished band.

In purchasing the elastic material, we have found that each gross actually measures short in yardage because the suppliers' measurements are taken over a metering device with a resultant slight stretch, we presume. This is a fair practice, but leads to errors in preparing a preliminary materials cost estimate, unless a cutting and sewing test is run.

Attaching Elastic Bands. The next process is that of attaching elastic bands to the seamed stockings. We perform the sewing operation on a Union Special Class 41,300 seaming machine, which has the fabric uncurler and also the puller plate removed.

An old style chain cutter, similar to the Moffat cutter, should be used for best results; it should be installed on the 4-hole adjustable bracket furnished with older Union Special machines. This arrangement will allow the stocking welt and elastic band to rotate freely with the front feed-cup, thereby producing a neat attaching seam.

The stockings received by this operator are still turned on the wrong side, which is the usual custom after the hosiery seaming operation. The elastic-attaching operator has space in a trough attached to the table edge in front of her, which accommodates a few dozen seamed stockings on the right side, and will also hold a few dozen bands on the left end.

Picking up a stocking in her right hand, and a band with her left hand, the operator places the band bottom-edge-up just inside the stocking, as is shown in illustration 6. The seam in the band must be matched with the stocking seam, preparatory to running the materials into the sewing machine. The photo shows the correct holding position.

Start to insert the matched stocking and band at a point about 1 inch ahead of the seam; it is best to run the material into the machine without using the presser-foot pedal to open the feed-cups. By starting the materials as shown in illustration 7, the band will be in front of the stocking welt when sewing; this will prevent the fine denier welt from slipping out from under the stitch finger. If the operator were to start the material closest to her left hand first, the welt would be in front of the band and would be more difficult to sew. There are definitely two methods of starting the sewing operation, but experience has proved the method illustrated here to be superior.

The operator should stretch the band to conform to the actual size of the welt, and sew around the entire band and stocking without stopping. Overlap the sewing chain by about one inch, and run the material slightly out of the machine; cut the stocking loose after starting the next stocking, leaving a 3/8-inch length of seaming chain. The top edge of the band and the stocking welt should be held at a uniform level while sewing in order to produce a nice attaching

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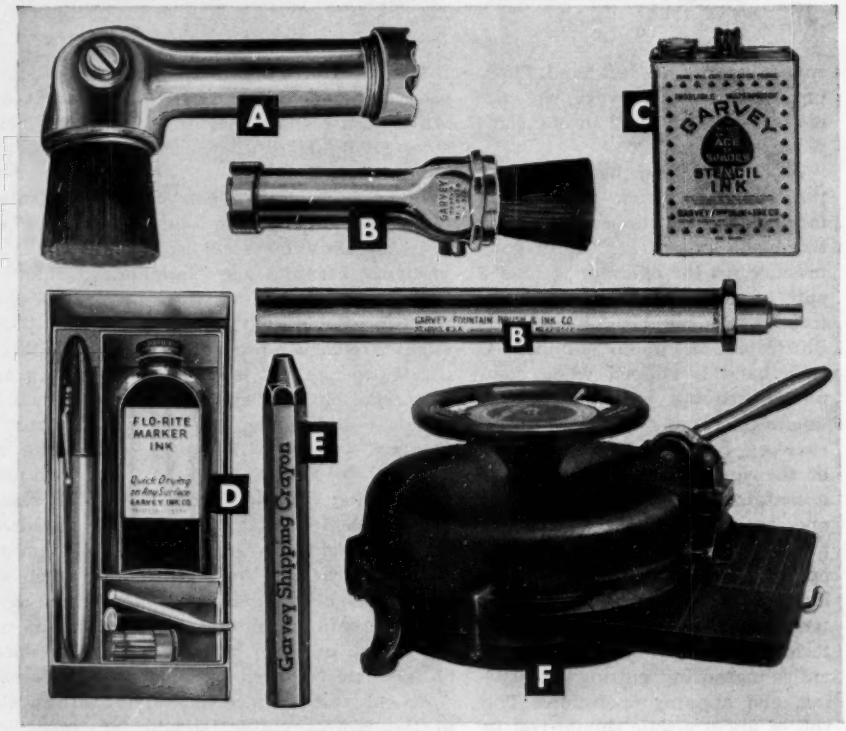

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Mills Can Be Licensed to Make Sheer Stretchable Hose

Chadbourn Hosiery Mills, Inc., has transferred to a newly formed company, Chadolin, Inc., of Charlotte, N. C., it patent and trade-mark rights for the ladies' sheer, stretchable nylon hose heretofore sold exclusively by Chadbourn under the "Larkwood Fabulous Stocking X" brand. The new company will grant licenses for the manufacture of this hose, and the original owners, Chadbourn Hosiery Mills, Inc., will become a licensee on the same terms as other licensees of Chadolon, Inc.

This new stretchable hose is said to have the same sheerness and general appearance as conventional 15 denier nylon ladies' hose. The stretchable property prevents wrinkles around ankles and knees, makes the stocking cling to the leg, and assures a perfect fit for all leg dimensions, with only three stocking sizes — small, medium and large, according to the announcement.

The stretchability of the hose is obtained by a novel treatment of the 15 denier monofilament nylon yarn which is used in knitting the hose. This special treatment does not make the yarn elastic, but nevertheless gives it a property that imparts stretchability to the hose knitted from this yarn.

To assure adequate production of the yarn for the full-fashioned hosiery licensees, Chadolon, Inc., will establish contracts with commercial throwsters under which they will manufacture the yarn, according to orders and specifications supplied by Chadolon, Inc., and ship the yarn to the hosiery manufacturers. All of this processed yarn will be sold under the trade-mark "Chadolon," and transfers on the stocking welts will carry this yarn identification.

The Chadolon, Inc., developments are covered by a number of patent applications on file in the United States patent office, and patent claims of broad scope have been allowed by the patent office based on the original discoveries.

All communications with the corporation, including applications for licenses, should be addressed to Warley L. Parrott, patent counsel, Chadolon, Inc., Room 312 Johnston Building, Charlotte, N. C.

Many Uses Seen for New Inflatable Fabric

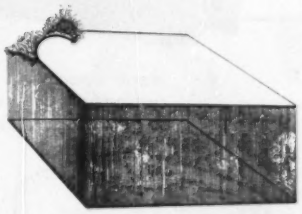
An inflatable fabric reported to provide the strongest structural beam for its weight ever developed was announced recently by The Goodyear Tire & Rubber Company's Aviation Products Division.

Called "air mat," this rubber-coated nylon fabric opens the way for endless, new lightweight structural uses.

"While weighing only two pounds a square yard, the 'flat air' mat is capable of containing high pressures and provides excellent insulation against heat, cold and vibration," C. J. Ford, manager of Special Products, said.

Commercial applications being considered for this versatile fabric range from collapsible outdoor furniture which can be deflated for easy storage to reel-out ladders for aircraft crash landings.

Goodyear will not sell the fabric in sheet form, but will design, develop, and fabricate each product to customer specifications.



"Air mat" is woven, coated and fabricated as two plies of superimposed fabric with connecting nylon threads of a fixed length connecting the upper and lower plies.

In this new concept of internal load-bearing design, Goodyear engineers say, the nylon threads are actually load-bearing members maintaining the predetermined distance between the two layers of fabric. As a result the fabric remains flat when inflated.

Bursting strength of the fabric is rated at 20 pounds per square inch to 200 pounds per square inch and material depths of "air mat" in production go from ⅛ inch to three inches.

job. About 16 stitches to the inch is desirable, and will give a neat ruffled appearance around the entire band. The stockings are dropped into a tray in the usual method used in the seaming operation, preparatory to the grey inspection.

Actual production is an average of 73 dozen in 8 hours, less two 10-minute recesses.

Finishing. Knee-length hosiery featuring elastic bands may be finished in the conventional method or by the Dunn system, since heat does not affect the bands made by reliable manufacturers.

Special inserts should be used in the final packaging to keep the elastic in a uniform shape.

Illustration 9 shows an unfolded insert at the top; next is shown the insert folded in the middle as it would appear when the stockings are paired for packing. The bottom illustration shows the method of using the insert to hold two stockings which are paired.

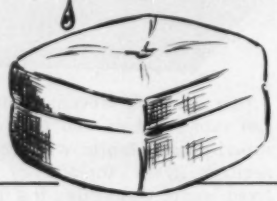
Illustration 10 shows the method of final packing. The knee-length stockings in the foreground are held neatly together at the insert by a fine rubber band; this prevents the insert from opening at the fold. The photo also shows how the hosiery should appear in the box in order to have sales appeal.

Don't Junk

Worn Top Rolls

Your worn top rolls can be the basis for the best and longest wearing rolls you ever used. If you are skeptical about our "better-than-new" claims for Ideal Specialloy Reconditioned Top Rolls, here are some things we can prove.

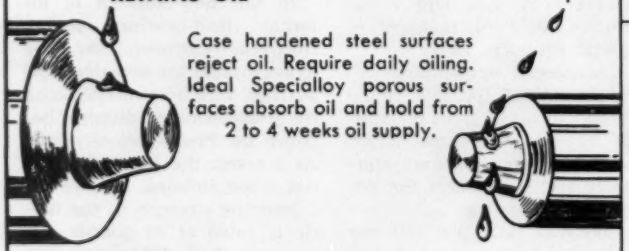
Ideal Specialloy surfaces have a cushioning action . . . tough—but oh so gentle . . . on saddles and cap bars.



Goes Weeks Without Attention

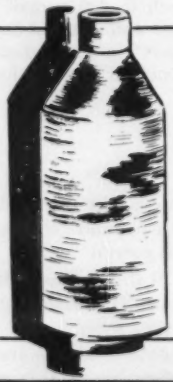
RETAINS OIL

Case hardened steel surfaces reject oil. Require daily oiling. Ideal Specialloy porous surfaces absorb oil and hold from 2 to 4 weeks oil supply.



SPECIALLOY SAVES MONEY

Specialloy Reconditioning means longer life for top roll assemblies, less oiling labor, and sharply reduced seconds . . . a worthwhile net saving to you.



NO OIL SPOTS

The oil stays on the Specialloy bearing parts and off of the yarn. Oil seconds are practically eliminated.

Don't junk your worn top rolls. Let us show you why Specialloy Reconditioning will give you the best top rolls obtainable. Let us recondition a half dozen of your worn rolls to prove our claims.

Ideal Machine Shops, Inc.

Bessemer City, N. C.

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SLASHING FORUM

Georgia mill men gave ways to control size pick-up; made many other practical suggestions for improving slasher room operations

Staff Report

THE ANSWERS to questions describing their slashing and weaving practices received from Georgia mills operating 1,187,428 spindles formed the basis of an open forum discussion at the fall, 1954, meeting of the Textile Operating Executives of Georgia, held in Atlanta on October 23.

Highlights of the mills' replies and comments from the floor are condensed here for easy reading.

Control of Size Pick-Up. Seventeen mills replied to a question asking their methods of controlling size pick-up. Tests to determine size content are made at intervals ranging from daily in the case of two mills to once in 10 weeks at one mill. The majority of the mills reporting make a weekly laboratory check of size pick-up.

Factors listed as most important in controlling size pick-up were viscosity of size mixture, type and weight of squeeze rolls, type and condition of blanket, and yarn speed.

Mill B noted that size pick-up can be increased by increasing the amount of wool yarn on yarn-wound squeeze rolls. Greater size pick-up is obtained by covering the squeeze rolls more often, since freshly covered squeeze rolls cause increased pick-up.

Mill Q warns that, when running wet sets, dry cans should be as hot as possible to keep from thinning the size. Size overcooked and held too long breaks down and does not give properly sized warps.

Mill I homogenizes size at 3500 psi. In response to a question from the floor, a representative from the mill explained that this unusually high pressure enables them to get the same size pick-up with pearl starch as with thin-boiling.

Rubber or Synthetic Covered Squeeze Rolls. Ten mills reported that they use rubber or synthetic covered back rolls, and five of these also use them on the finisher rolls.

Buffing schedules for synthetic covered rolls run from every three months to once in six months. However, one mill which runs these rolls in both finisher and back positions has never found it necessary to buff them, and some of their rolls have been in use for about five years. The one mill which reported using rubber covered back rolls buffs them on a 14 to 18 month schedule.

Mill V, which uses synthetic covered rolls only in the back position, found that they paid for themselves in one and a half years.

Synthetic Covered Delivery Roll. One mill says, "We feel that synthetic covering of delivery roll is one of the best improvements made in slashing in recent years. . . . We cover our delivery roll with cork fillet and if it becomes damaged, we replace the damaged strip. It generally runs about six months before needing recovering overall. We like it because [when we were] using cloth it was not possible to get a uniform tension on the warp all the way across the delivery roll."

Handling Ply Yarn Selvages at the Slasher. The mills describing their practice in the handling of ply yarns were about evenly divided between those which add the selvage ends from cones on a creel behind the slasher and those which creel them on one section beam.

Several of these mills do not size ply yarn selvages at all, while others treat them the same as singles yarn. The rest of the mills (about half of those reporting) run the ply yarns under only the front squeeze roll.

Selvage yarns that are wound

DISCUSSION LEADERS

SLASHING . . . . J. A. Fife, Scottdale (Ga.) Mills.

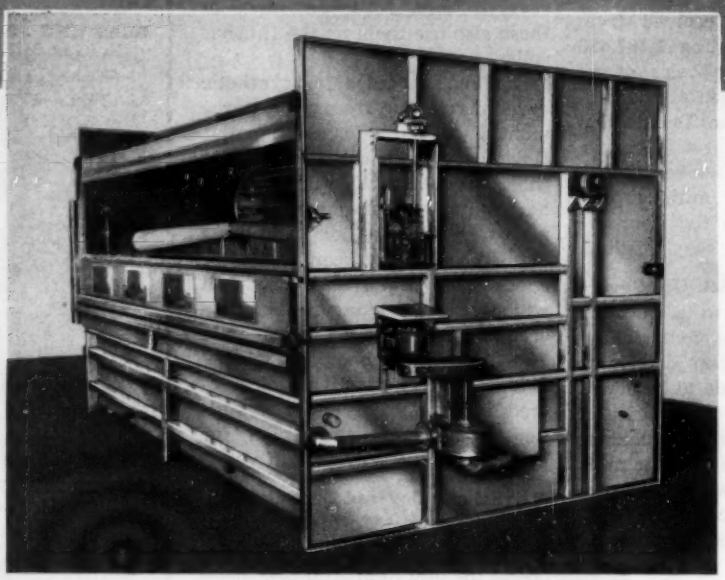
POWER . . . . Charles Bollin, John P. King Mfg. Co., Augusta, Ga.

WEAVING . . . . McAllister Isaacs, Jr., Bibb Mfg. Co., Columbus, Ga.

The Fleet Line

RUG DYE KETTLE

With Successful New Features For LEVEL DYEING · EVEN TEMPERATURE FULL CIRCULATION OF LIQUOR



R&L Stainless Steel Rug Dye Kettle design solves problems of level dyeing which usually arise from position of rug in the kettle. Two strong impellor pumps induce positive liquor flow, steam and liquor are introduced at *front* of machine. Write for complete data.

FUNCTIONS — Dyes cotton or synthetic rugs in open width, also does rope dyeing.

FEATURES —

Stainless steel throughout, completely self-supporting construction.

Positive liquor flow controlled by pumps maintains even temperature and circulation throughout bath.

Cloth guiders, electronically controlled, automatically center cloth within very narrow limits of traverse movement.

Guiders are rubber covered, may be had in stainless steel.

Three different drive speeds give dyer ample choice for meeting varied conditions and for application of his own dyeing technique.

Steam and liquor introduced at *front* of machine through dispersants running full length of kettle.

Dye dispensers, salt dispensers.

Counterbalanced door easily raises and lowers from any position.

Automatic exhaustion when door is opened.

Interior lighted for easy supervision.

Made in widths to accommodate any size rugs.

ADVANTAGES — More level dyeing · Positive and assured results · Dyes rugs open widths · Lower labor costs · Faster dyeing cycle · Lower dyeing costs · Dyes in rope form · Easier maintenance

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Agents: Paul A. Merriam Co., 1491 Broad St., Providence, R. I. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill.
F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C. • A. Harold Zayotti, Jr., P. O. Box 125, Riverton, N. J.
H. A. Mott Co. Limited, Brantford, Ontario, Canada

CAUGHT BY TI'S CAMERA at the meeting, left to right: **Jesse Ellington,** Aragon (Ga.) Division, United Merchants & Manufacturers; **Lewis Shackleford,** Monroe (Ga.) Cotton Mills; **Roy Brasil; Bert Gunter,** Chicopee Mfg. Corp. of Ga., Gainesville.

IN ATTENDANCE were, in the usual order: **Charles Helms** and **Ed Dupree,** Eastman (Ga.) Cotton Mills; **W. T. Harrison** and **Tillman Johnson,** Monroe (Ga.) Cotton Mills.

CHICOPEE MFG. CORP. OF GA., Gainesville, sent **Herschel Smith, James McDuffie, Burwell Salmond, Jones Stewart, B. V. White,** and **W. R. Otey.**

BIBB MFG. CO., Columbus, Ga., was represented by **J. P. Parker, Ben Tinsley, F. B. Cameron, Wallace Benton,** and **J. V. Davidson.**

on section beams are more difficult to handle separately from the other yarns, for the slackening and tightening of the main body of the warp as the immersion roll is moved up or down must be allowed for to prevent kinking or breaking of the selvage.

At *Mill D,* to prevent the selvage weaving too tightly, it is built up slightly higher on the loom beam by laying ply ends 5 to the dent in the slasher comb, as compared to 4 ends per dent for the body of the warp. At this mill ply yarn is run from the front section beam, and goes under the front squeeze roll only.

Mill Q warns that ply yarn selvages that are run without size from the front of the slasher have a tendency to run loose unless the same tension is put on the selvage as is put on the body of the warp. "We have to run the two ply around several rods to get enough tension on it."

Stretch Control. Only one mill reported that its slashers are equipped with positively driven creels. It is this mill's experience that these drives give much better control of both stretch and waste than does a conventional creel.

To control stretch, *Mill D* keeps the beams in the creel level and in line. Leather washers are used around beam journals and bearings are kept loose enough to permit these washers to turn.

Yarn stretch at *Mill F* is controlled by increasing or decreasing the size of the delivery roll, in addition to varying the weight on the section beam friction ropes.

Mill O uses Weston stretch indicators at the feed roll and the delivery roll to determine both the percentage of stretch and the yards per minute delivered.

Waste Control. The following tips were offered to reduce waste at the slasher:

1. At the warper, run the same number of yards onto all section beams of the same set.

2. Be sure that tension is equal on all beams in the creel.

3. Keep careful records, and immediately investigate any report of excessive waste.

Mill Q recently put an extensive waste control program into effect throughout the plant. The way the program works in the slasher room is as follows:

The helpers weigh each man's waste and record the amount on a report pad at the scales. The waste is then put in marked bins in front of the scales.

At the end of each shift the size man weighs and bales all the waste made on that shift, and turns in to his supervisor a report of the totals of each kind. Supervisors spot-check from time to time to determine the accuracy of weighing and to prevent the mixing of waste.

Each supervisor keeps a graph of the totals of each kind of waste, which is posted weekly where everyone concerned can see. The total waste made by each man is also posted.

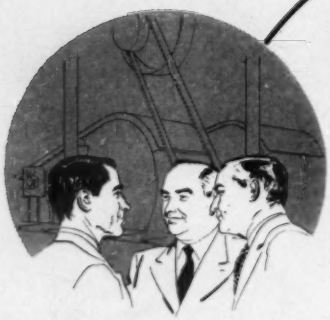
While this procedure involves considerable reports and records, *Mill Q* believes that it is justified by the results obtained.

(Weaving discussion will appear in a later issue.)

SLASHER WASTE IN GEORGIA MILLS

Mill	Soft Waste Yd/Set	Hard Waste Yd/Set
B	25	15[1]
D	40[2]	—
	40[3]	30
E	78	87
F	15-25	5
H	30[4]	—
I	15[4]	—
K	8-10	7
K-1	35	5
N	25	25
O	12-15	30-35
P	35	10
Q	75	10[5]
R	22	6-15
T	128[6]	25
	120[7]	26
V	30	25

1Plus 8 yards of wet waste
2Light sets, includes small amount of hard waste
3Heavy sets
4Includes hard waste
5Plus 72 yards wet waste
6Cotton
7Rayon



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HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Write to the Editors!

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta, Ga.

Try This Set-Up to Control Dye Beck Temperature Rise

EDITOR TEXTILE INDUSTRIES:

Right now instrumentation plays an increasing role in a modern dye house. There are recorders and controllers for pH, temperature, flow rates, bath exhaustion, and oxidation-reduction potential, to name but a few.

For a dye beck or kettle there are instruments which control the rate of rise of the bath's temperature, the holding temperature and time, allow a drop to a lower temperature and then announce the end of the cycle by light or horn. A chart shows just what happened all the way through.

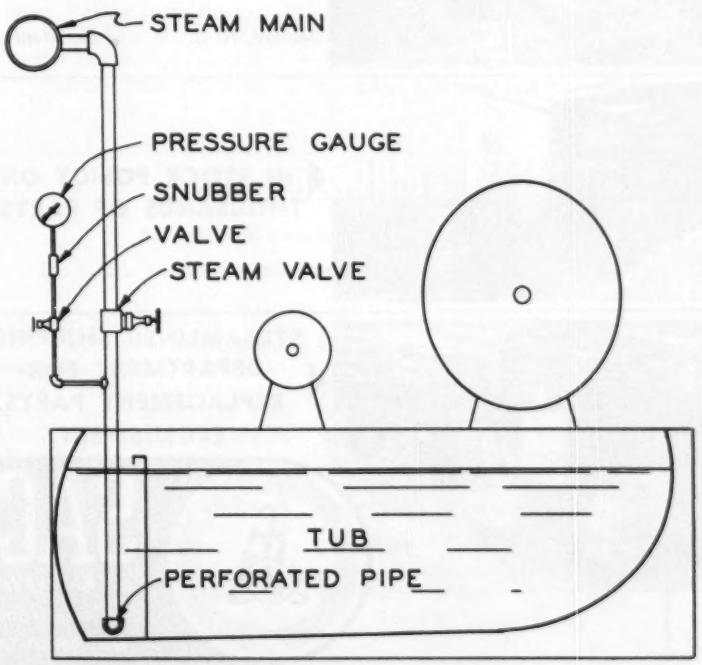
Of course the only reason why these instruments are not used on every tub is the cost of the instrument. But isn't there a simpler and cheaper way to do it?

Well, unfortunately there isn't. The instrument is a bargain, because it takes the place of a highly skilled, conscientious watchman. However, there is one part of the task that could be substituted for. This is the rate of rise of temperature, which can be highly important for some dyes and cloth qualities.

To visualize how to control rate of rise think back to the fact that the starting water level in a tub is generally quite constant. Then imagine a fixed amount of steam per minute sent into this constant amount of water. The water will get warmer at nearly a uniform rate from room temperature to boiling point. Of course the rate will be slightly less near the boiling point, but many dyers would consider that to be an advantage.

How do we get a fixed amount of steam per minute? The perforated pipe at the bottom of the tub stays the same, and the steam is fairly consistent in heat content, so it is the pressure in the perforated pipe which decides how much steam goes into the water in a minute. The steam valve controls this, so by setting the valve to give a known downstream pressure we can get a fairly consistent rise rate.

The accompanying drawing shows how a pressure gauge can be connected below the steam valve. Make the connection anywhere between the valve and the tub water level, but try to get it



Yes!

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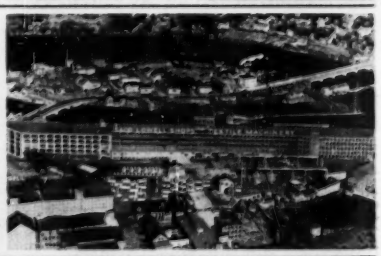

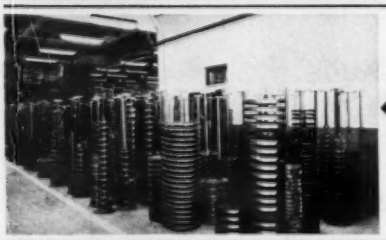

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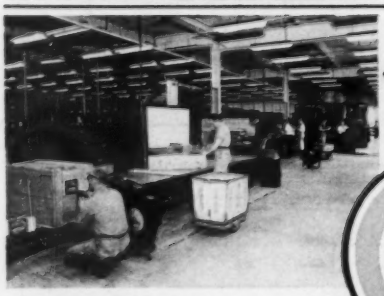

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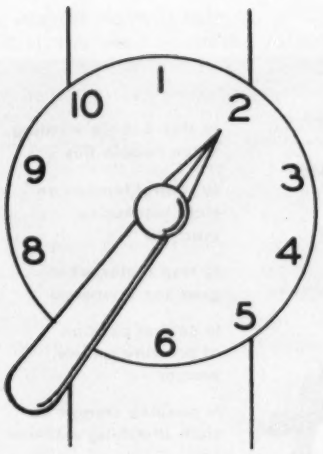

in a straight run some distance after the valve if possible, because this will help to keep results of calibration the same for all tubs and lessen the need for recalibrating after a steam valve change.

The pressure gauge range need be only about three-quarters of the line pressure, oddly enough, because the pipe perforations prevent too high a buildup. However, most people would prefer a range up to the maximum line pressure.

After connecting the pressure gauge make a calibration to see what the rate of rise is for an average tubload of water at a given pressure on the gauge. For example, if a tubful goes from 60 F to 180 F in 40 minutes the rise rate is 3 degrees a minute. Make sure that the tub water is well agitated by cloth or by stirring so that an even temperature obtains.

In operation will the pressure vary much? Many dyers will be surprised to see how small the variation is. The machine operator will rarely have to change the steam valve setting unless there are terrific swings of steam header pressure or unless the valve itself works loose.

The chief limitation of the method is that very small rise rates to high temperatures are not possible. This is because tub heat losses increase until at high temperatures they are equal to the heat brought in by the steam. When this comes about, the temperature rise stops and the steam valve must be opened to a new setting. Enclosed dye tubs are better in this respect than open ones because their losses are smaller. It will be found, however, that any practical rise rate is within the capabilities of the method.

CONTRIBUTOR No. 8745

[Some mills have equipped the steam valve with a dial and pointer, as shown in the sketch, and obtained essentially the same results as those for which CONTRIBUTOR NO. *8745 is striving.—Eds.]*

More On How to Get Uniform Wool Roving

Subject Briefed: *We spin coarse-count yarns from a mixture of wool and cotton waste, on the woolen system. There is a wide variation in size of roving from the top and the bottom decks of both single- and double-apron tape condensers; the count from the upper decks is always finer than the count from the bottom decks. How can we obtain uniform counts from both top and bottom decks?*

(CONTRIBUTOR No. 8712, *August,* 1954)

EDITOR TEXTILE INDUSTRIES:

We have found that the following steps will remedy a great deal of the variation between top and bottom decks of a tape condenser:

1. On a two-bank condenser, if there are separate tapes feeding the top and bottom spools, tighten the bottom tape.

2. On a four-bank, double rub, K4DA Whitin condenser, changing the draft gears will help the variation.

3. Moving the rub aprons either closer to or farther from the tapes will help to correct the variation between top and bottom spools.

CONTRIBUTOR No. 8739

EDITOR TEXTILE INDUSTRIES:

CONTRIBUTOR No. 8712's problem is not described in enough detail to be sure of the answer to his troubles, but perhaps the follow-

NEW KINK CONTEST!

$100 will be awarded the winner

Send your entry now! This contest ends April 15, 1955

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, April 15, 1955.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously.

Send your contest entry to:

Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

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- to control tension on cloth measuring machine
- to stop motor when gear box is opened
- to control position of pressure roll on warper
- to position clamps on cloth stretching machine
- as thread run out detector on loom shuttles
- as selvedge build-up control
- as fabric thickness detectors
- and many other textile applications

Hundreds of Mill Operators are saving important money with MICRO SWITCH products

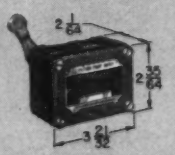
● Thousands of textile machines have been given new life—made more automatic, safer and more productive—by the installation of MICRO SWITCH precision switches.

These quick, sure-acting electrical controls are rapidly being used to replace mechanical stop motion devices which are often slower and less dependable.

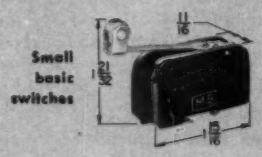
Shown here are just a few of the switches which mill operators have found particularly adaptable to use with textile machinery. Many are ruggedly housed and sealed against the effects of dirt, dust, lint or humid atmospheres.

You are invited to get in touch with the nearest MICRO SWITCH branch for advice on the switch most suitable to your requirement. Switches may be purchased from the MICRO SWITCH distributor near you. Look in the yellow pages of your phone book under "switches, electric."

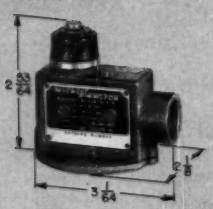
These Switches have put new life in textile machines:



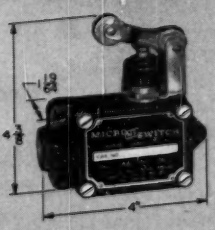
Explosion- and splash-proof switches



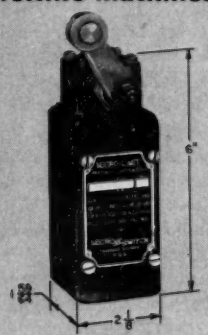
Small basic switches



Die cast enclosed switches with sealed plungers



Die cast enclosed switches with roller actuator



Heavy duty limit switches

Glass enclosed mercury switches

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ing suggestions will help.

First, the wool leaves the doffer of the finisher card by being stripped with an oscillating comb. The wool is flat, in the form of a web, and care must be taken to draw this web from the doffer to the dividing rolls of the tape condenser with no folds or overlaps.

The web is cut into ribbons of uniform size by the tapes passing through the grooves of the dividing rolls. These tapes should be of uniform width and be under uniform tension.

As the ribbons of wool leave the tapes they enter the rub aprons. The draft between each tape and apron on each individual bank should be the same. That is, the flow of stock should enter the rubs from the tapes and be taken by the rubs at the same rate of speed on all four rubs. This is accomplished by individual change gears on each bank of aprons.

On double apron condensers, the draft between the two sets of aprons should be the same for each bank of the condenser.

Next comes the winding frame or drum drive; as the stock leaves the rubs, the rubbed roving winds onto a jack spool. Check the tension on each individual spool as follows (incidentally, any variation should be checked this way):

Run the card with stock for 5 or 10 minutes, stop the card, and weigh each individual spool. Obtain some rags from the finishing room, or use leather if necessary, and lag all light spools to conform to the weights of the heavier spools. This is done by individually lagging the outside drum drive pulleys.

If the roving is now uniform, but more tension is needed for a tighter wind, lag the main drive drum pulley to increase tension equally on all four banks.

CONTRIBUTOR No. 8742

EDITOR TEXTILE INDUSTRIES:

We would suggest that your CONTRIBUTOR No. 8712 check the following points:

1. See if there is a difference in the speed of the drums on the bottom decks as compared to the top decks.

2. Check for a difference in draft between the bottom and top decks.

3. Make sure that the tapes on the top decks are not significantly older than those on the bottom decks.

4. Check that the ages of the aprons on the bottom and top decks are approximately the same.

If any differences are found in any of the above four cases, the proper correction should be made.

It is quite possible in blends of this kind that the bottom tapes will carry off more wool than the top tapes, which would of course make the roving heavier on the bottom spools. We suggest that your contributor make a fiber analysis to see if the blend varies from spool to spool.

If the blend varies, there is probably little that can be done to make it more stable. However, in such cases increasing the speed of the drums on the bottom section will give a slightly greater draft between the rub apron and the drum.

Finally, it is also possible that the dividing rolls are set too open. In this case the stock will feed heavily to the bottom. If so, the mill will have to experiment with suitable settings.

CONTRIBUTOR No. 8740

[*Further answers to* CONTRIBUTOR NO. 8712's *question appeared in* TEXTILE INDUSTRIES *for October, 1954, pp 213 and 215.*]

How to Get 78-Inch High Looms Through a Door 66 Inches High

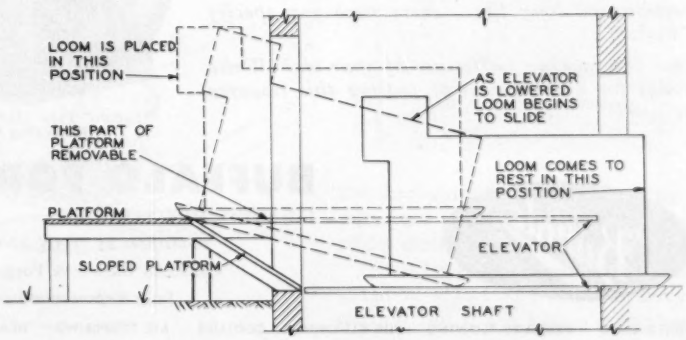
EDITOR TEXTILE INDUSTRIES:

Recently we purchased a block of Draper XD dobby looms. When they arrived, we found that the easiest way to bring them into the plant would be to put them on the elevator from our regular loading platform.

This platform is 46 inches high; the opening in the wall is 66 inches high. The looms, which were mounted on skids, were 78 inches at the highest part of the dobby. Therefore, we could not slide them through the entrance onto the elevator. Removal of brick work was impractical, since it is reinforced with steel at top and sides.

We solved our problem by building an inclined platform underneath the regular platform (see accompanying illustration). The planks in the regular platform which were over the inclined platform were then removed.

The looms were put on the platform with the high dobby end to


LOOM IS PLACED IN THIS POSITION
AS ELEVATOR IS LOWERED LOOM BEGINS TO SLIDE
THIS PART OF PLATFORM REMOVABLE
LOOM COMES TO REST IN THIS POSITION
PLATFORM
ELEVATOR
SLOPED PLATFORM
ELEVATOR SHAFT

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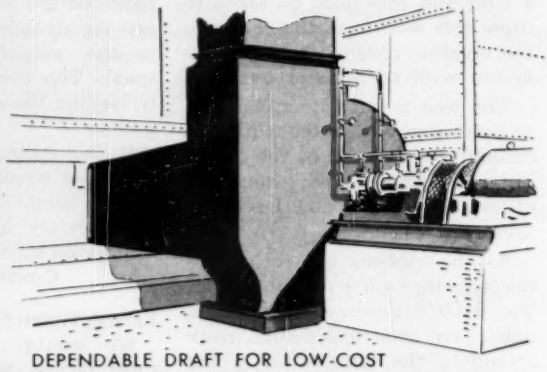
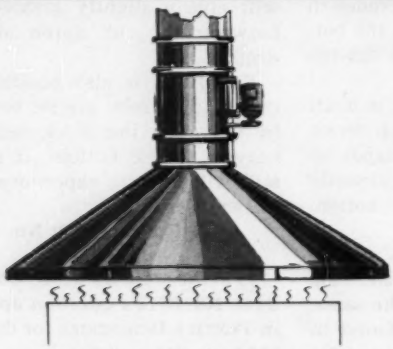


DEPENDABLE DRAFT FOR LOW-COST STEAM FOR POWER, HEAT, PROCESSING



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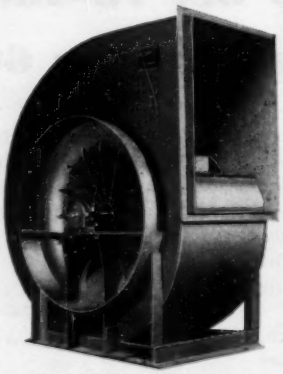

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VENTILATING PRESSURE BLOWING AIR CLEANING COOLING AIR TEMPERING HEATING INDUCED DRAFT FORCED DRAFT EXHAUSTING

the back of the platform, with the elevator level with the high part of the platform. The looms were then shoved a little more than half way into the elevator.

When the elevator started down, the front end of the loom followed, and then began to slide on its skids. The high part of the dobby missed the top of the opening by about one inch, and came to rest as the elevator reached bottom-floor level. We brought in 36 looms this way in four days, without mishap.

We replaced the top platform boards, leaving the inclined platform in place for future use.

CONTRIBUTOR No. 8744

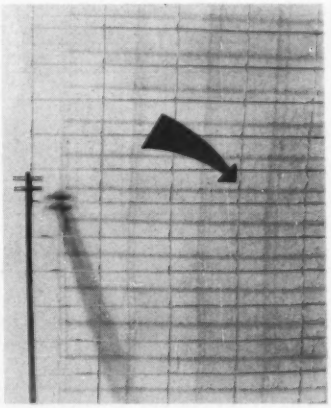
HOW OTHER MEN MANAGE

Mill-Made Tool Tightens Fences Around Plant

EDITOR TEXTILE INDUSTRIES:

Installing industrial fences without stretching equipment, or tightening an existing fence that has sagged, often presents a problem to maintenance departments. Recently we made some additions to the fences inside our plant, and a simple and effective method of tightening was devised.

A piece of flat iron ¼" x 1¼" x 18" was secured and two ¼" holes were drilled diagonally about ¾" apart near one end. Two ¼" pins were installed in the holes, as shown in the accompanying illustration. After the fence is fastened in position, it may be tightened by applying the tool, as shown. One pin is placed on each side of the horizontal strand and is bent to the shape of an "S". The effect can be seen on the wire. By using the



tool horizontally, the bends in the wire are almost invisible at a slight distance.

Some types of fences are corrugated in effect and have a wavy outline, but if the tool is made ac-

This Wooden Cam Follower Has Increased Wear Life

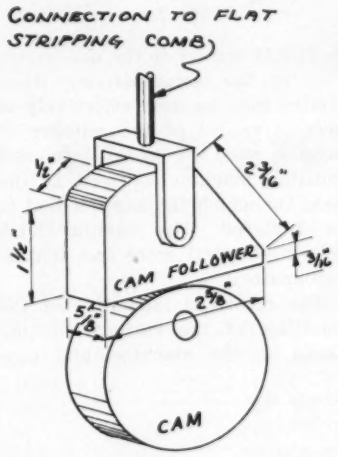
EDITOR TEXTILE INDUSTRIES:

We have replaced the steel stripper comb cam follower on our cards with a wooden one, and have increased the wear life of both the cam and follower.

We made the cam follower of maple wood according to the dimensions shown in the accompanying sketch. It was then soaked in oil for 24 hours.

We have had some of these cam followers running now for about a year and a half, and none have worn out. There is also practically no wear on the cams.

CONTRIBUTOR No. 8737



Here's A Quick Method for Cleaning Knitting Needles

EDITOR TEXTILE INDUSTRIES:

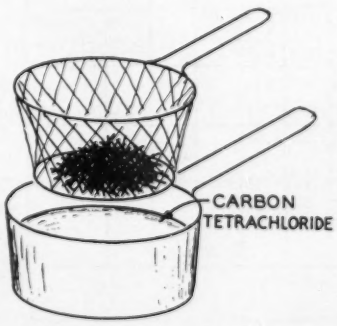
Here is a simple device we have found effective for removing oil and grease from the needles when we are overhauling our knitting machines.

We set up a pan containing carbon tetrachloride, and suspend a wire strainer over it. As the needles are removed from the machine, they are placed in the strainer, and then allowed to soak thoroughly in the solution.

The needles are removed when all the grease and oil are dissolved, and are then thoroughly dried.

Defective needles are discarded, and the good needles either returned to the machine or placed in plainly marked containers.

CONTRIBUTOR No. 8750

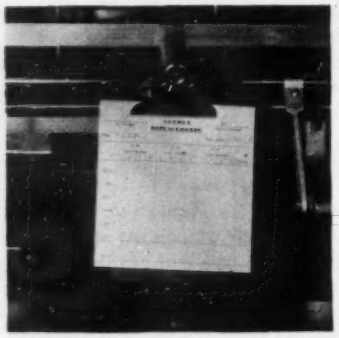


cording to instructions, it will be right- or left-handed, according to the side used, and will be effective in tightening this type of fence. Individual strands can be tightened without effecting nearby strands that do not need adjusting.

The tool should not be applied to every section of fence but should be used sparingly at intervals of approximately five or ten feet, depending upon total length of fence and amount of sag or slack. Application of this method of tightening fences will prove surprisingly effective.

CONTRIBUTOR No. 8672

Needles Used by F-F Machine Recorded on Simple Form



A FORM similar to the one shown in the accompanying illustration may be used effectively to keep a record of the number of needles used by a full-fashioned knitting machine as well as the head on which the needles had to be replaced. The sample form shows a typical score and is self-explanatory.

The record is indicative of the condition of the various knitting heads on the machine, and continued use of replacement needles by any one head serves notice that the head requires adjustment or repairs.

1 SET NUMBER — NEEDLE REPLACEMENTS — 6 MACHINE NUMBER

STYLE 021 X — DATE JAN. 14-53

	A.M. HEAD NUMBER				P.M. HEAD NUMBER				P.A. HEAD NUMBER				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	
MON.	/		/					/					
TUES.				/						/			
WED.		/									/		
THUR.													
FRI.													
SAT.													
TOTAL													

How to Control Stretch At the Slasher

EDITOR TEXTILE INDUSTRIES:

I received such good advice from you a few months ago that I am prompted to write again with another question. Perhaps you can again advise me.

We note that when cotton warp yarn as received from the spinning frame has less than 7 per cent elasticity [see comment below], the number of warp stops in weaving is increased.

Can you tell us what per cent elasticity mill men in the U.S.A. consider as a good average for warp yarn, and also the lower limit of elasticity?

We spin 16.5s, 24s, and 30s carded yarn; 36s and 48s combed yarn. We have Barber-Colman spoolers and warpers, and our tests of strength and elasticity are made on a Uster Dynamometer.

CONTRIBUTOR No. 8667
(France)

EDITOR TEXTILE INDUSTRIES:

In answer to the question by your CONTRIBUTOR No. 8667, we believe that his comments on elasticity are in line, in regard to unsized warp yarns. We find that the normal "elasticity" (a better term is elongation at the break) runs around 6 to 8 per cent with a good unsized warp yarn. After sizing, this elongation at the break may drop to as low as 4.5 per cent and still give good weaving results.

Loss in elasticity may often be off-set by proper adjustment of the looms. For advice on this, we would prefer to send your man to some of our expert weavers.

If low elongation is causing him trouble, the adjustments which can be made in the slasher room are generally these:

1. Check the stretch on the slash-

TIPS ON CARD STRIPPING

Why the Stripper Hands in Your Mill Should be Schooled in the Importance of Their Jobs:

1. Most mills accept stripping as a necessary evil, and assign this job to untrained workers.
2. Take time out to teach more than the simple mechanical motions of stripping, before turning them loose on their own.
3. Explain "why" each cylinder and each doffer should be stripped clean every round, and teach them never to leave a card until all impacted fibers are removed.
4. Appoint each stripper hand a committee of one to report to his supervisor on those cards that will not strip clean, and on any difficulty with equipment used.
5. Have it understood with supervisors that immediate attention is given to such reports, and the difficulty corrected as quickly as possible. Commend the stripper hand for reporting the difficulty.
6. Failure of supervision to act promptly will cause loss of interest and result in no further reports from stripper hands.
7. Some suggestions on care and maintenance of hand stripping equipment:

A. Stripper roll should run true, to prevent digging into clothing foundation.

B. Use stripper fillet with wire size recommended for your particular fillet wire counts. Many mills do not realize the extent of damage caused by using stripper fillet with heavy foundation, having wire larger in diameter than fillet wire.

C. All stripper fillets should be wound on in a tight spiral, under hand tension to set wire firmly in foundation.

D. Stripper roll should be set into cylinder and doffer so as to clean out all impacted waste. This setting should be checked after roll is recovered with new fillet. Guard against setting too deep. Be sure stripper wire does not contact fillet foundation.

E. The shafts and bushings of stripper roll should be checked periodically for wear and shaft alignment.

F. Replace fillet at first sign of wear, or damage to ends. Wire out of position, due to damage or loose wraps, will quickly ruin good card clothing.

G. Stripper stands should be securely bolted to the frame side and in proper alignment. i.e.—so that stripper roll shaft and cylinder and/or doffer shaft are in same horizontal plane.

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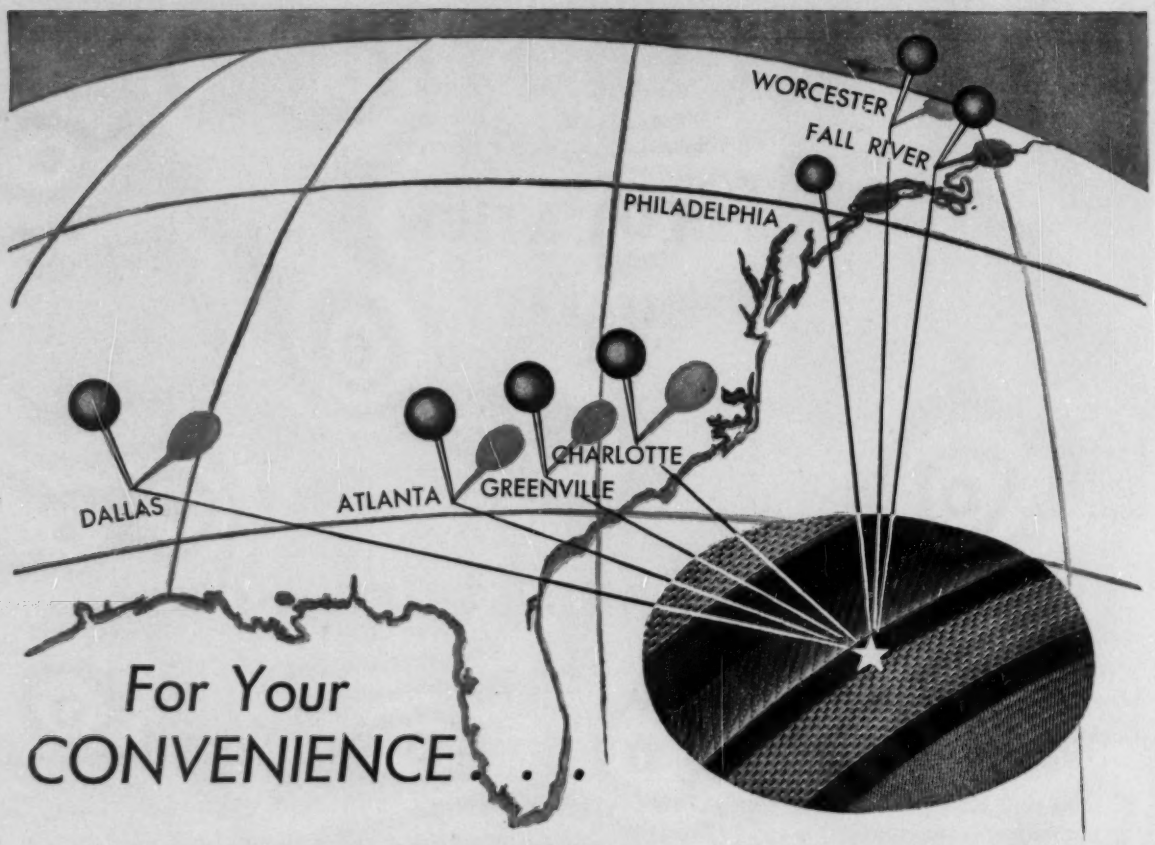
please turn the page ➧



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Three factories (Greenville, Philadelphia and Fall River), six repair shops (Greenville, Charlotte, Atlanta, Dallas (Textile Supply Co.), Philadelphia and Fall River) and seven distributing points (Greenville, Charlotte, Atlanta, Dallas, Philadelphia, Worcester and Fall River) make Ashworth Card Clothing and Ashworth Service *conveniently* yours.

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Worcester, Mass.	3-4430
Fall River, Mass.	5-7886
Los Angeles, Calif. (E. G. Paules, Rep.)	Axminister 3-6265

Ashworth CARD CLOTHING

er, and if it is over 2 per cent, make adjustments in the gears or on the cloth on the drag roll so as to cut the stretch down to about 1½ per cent.

2. Keep the packing roll away from the loom beam for the first 100 yards. This will give a little bit more cushion, which will make up for some of the loss in elasticity or elongation.

3. For the rest of the loom beam, use a little less weight on the packing roll and build up a softer beam. This will mean that you get less yarn on the loom beam, but the cushion thus obtained has some elasticity and will make up for the loss in elasticity of the warps themselves. Your contributor should at the same time be careful that he does not get too soft a beam which will give him difficulties. The correct amount of packing will have to be determined by experiment.

PAUL SEYDEL, D. SC.
Seydel-Woolley & Co.
Atlanta, Ga.

HOW OTHER MEN MANAGE

This Draw Frame Feed System Insures Count and Blend Uniformity

EDITOR TEXTILE INDUSTRIES:

Here is a system which we use at the cards and draw frames in our mill to aid in attaining better count and blend regularity. The object of the system is to make sure that we get a true cross section of a whole battery of cards in every can of sliver produced.

We have 16 cards feeding 8 deliveries at the first drawing, followed by 8 deliveries at the second drawing. We use the following system:

The cards are numbered from 1 to 16. Sliver cans are also numbered from 1 to 16, and each can is only used at the card with the same number. Cards 1 to 8 feed 4 deliveries at the first drawing, and cards 9 to 16 feed the other 4 deliveries.

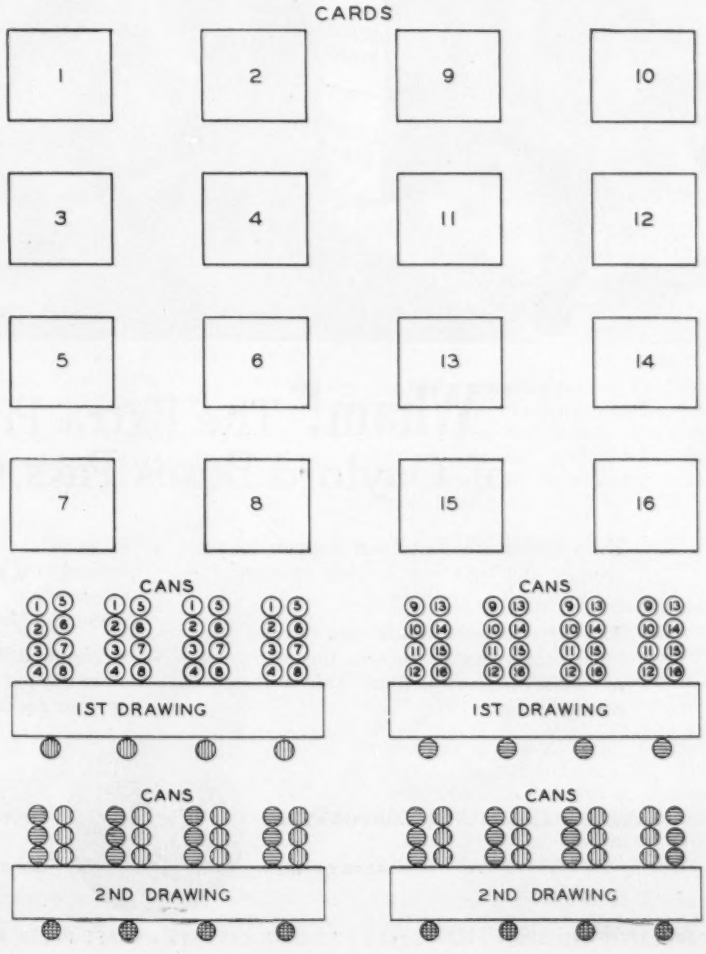
Each of the first 4 deliveries has 8 ends up (cans 1 to 8), and the other four also have 8 ends up (cans 9 to 16). The draft is 8.

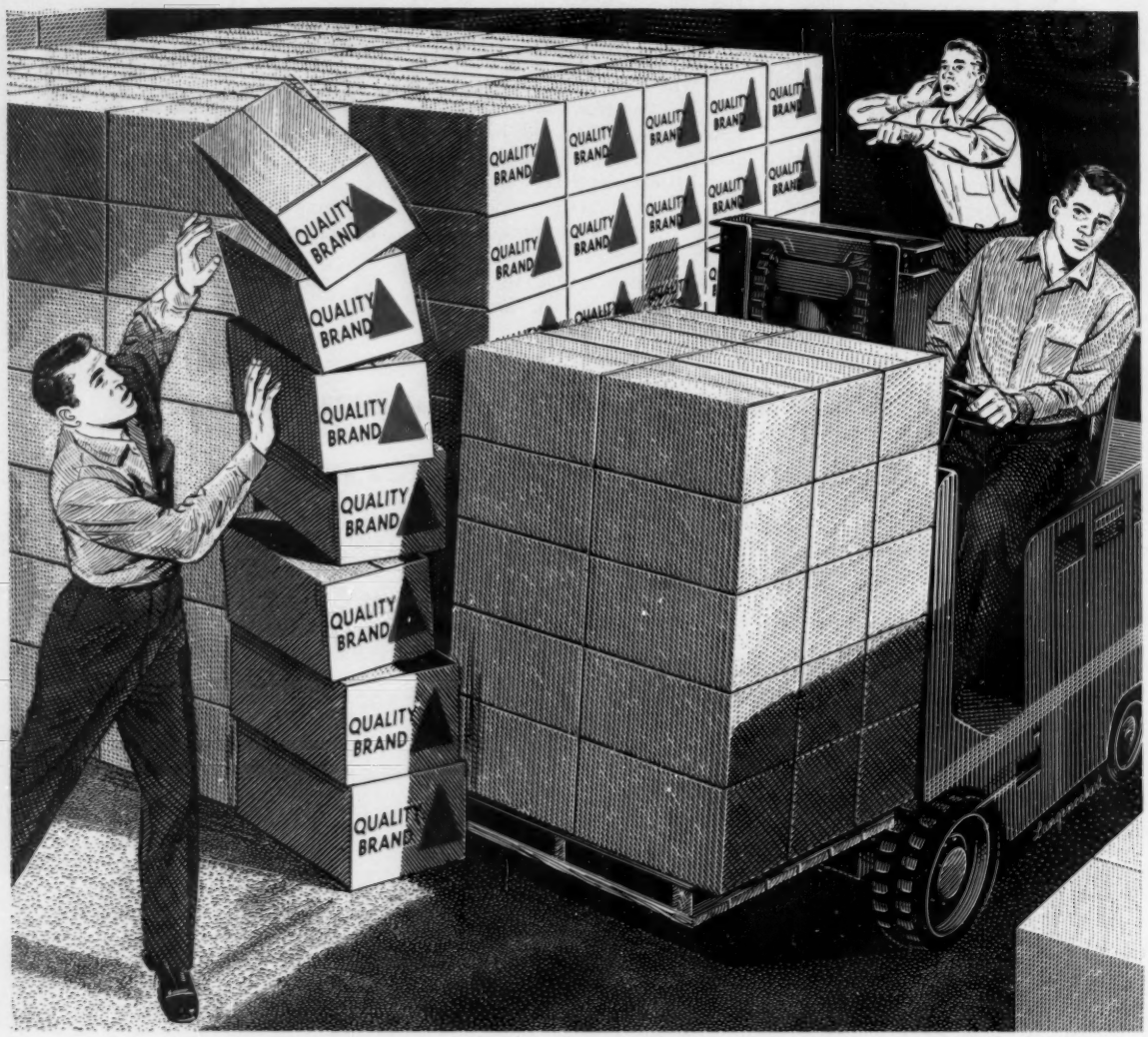
We therefore finish the first drawing with 4 cans that contain a cross section of cards 1 to 8, and the other 4 with a cross section of cards 9 to 16. At our mill, can numbers 1 to 8 are a different color from cans 9 to 16, for easy identification. Different colored rubber bands around the tops of the cans will serve the same purpose.

At the second drawing, three cans of sliver from cards 1 to 8 (combined at the first drawing) and three cans from cards 9 to 16 (also combined at the first drawing) are fed to each delivery. The draft is 6. We therefore finish at the second drawing with the sliver in every can being a cross section from all 16 cards.

This system averages out the differences among cards which might ordinarily persist through to the yarn. It is particularly important to use some such system for fiber blends that are eventually to be cross-dyed.

CONTRIBUTOR No. 8735





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What the TEXTILE MILLS are doing

(Continued from page 62)

corporation in Charlotte, N. C., formed to dye, color, or treat fabrics of all kinds. The company is a successor to Industrial Dyeing Corp. of North Carolina, Inc. Karl Ginter is serving as the organization's president.

A branch plant of **Morgan Dyeing & Bleaching Co.**, Rochelle, Ill., has been established in Cleveland, Ohio, with Alfred Olson as superintendent and Ed Iverson as overseer of dyeing.

The Nolde & Horst Co., Reading, Pa., has been purchased by Chester H. Roth Co., Inc., along with its wholly-owned subsidiary, Westminster, Ltd. The new owner plans to expand Nolde & Horst's operations, and to revive its women's and children's hosiery lines. Chester Roth, head of Chester H. Roth Co., is now president of Nolde & Horst, and Alfred Slaner is vice-president. Headquarters for the firm are now at 200 Madison Ave., New York, N. Y.

At **Riegel Textile Corp.**, Trion, Ga., 188 students attended the first week of vocational classes, marking one of the highest initial attendances ever recorded. The largest enrollment is in the three loom fixing classes with 100 students; next is spinning and spooler fixing with 38; and math and card room fixing with 25 students each.

40,000 additional sq ft of operating space is being constructed at **Starr (S. C.) Mills Corp.**, synthetic goods manufacturer.

The Paterson, N. J., mill of **Union Asbestos & Rubber Co.**, Chicago, Ill., has been sold to a real estate company, which will develop it for lease to industrial concerns.

Stevens Linen Associates, Inc., Webster, Mass., has installed 40 wide looms for the manufacture of decorative fabrics, drapery and upholstery goods. Under a new program, Stevens will manufacture linen yarn and synthetic yarn products as well as the regular line of products. Among these will be fancy place mats, fire hose, and many other specialities.

235 employees of **Stonecutter Mills, Corp.**, Spindale, N. C., became participants for the first time this year in the Stonecutter Mills Corporation Profit and Benefit Plan. Certificates have been distributed to all Stonecutter employees showing the standing of the account of each participant as of the close of the fiscal year ending June 30, 1954.

Textile Sales Limited, Montreal, Que., Canada, has announced the signing of an agreement with Milltown Textile Co-operative Ltd. for management of the company's St. Croix mill at Milltown, New Brunswick. Milltown Textile Co-operative Ltd. is an organization comprised exclusively of mill employees. Phillip Boel, former textile sales executive, is plant manager.

Rufus Dalton, vice-president and general manager of **Premium Spinning Mills, Inc.**, Mooresville, N. C., has announced that the company has changed its name and is now known as **Templon Spinning Mills, Inc.**

7,000 sq ft more floor space has been provided at **Valdese (N. C.) Mfg. Co.** The new, two-story building is to be used exclusively for warehouse operations.

The plan to merge **West Point Manufacturing Co.**, West Point, Ga., and the **Lanett Bleachery & Dye Works**, Lanett, Ala., has been approved by the stockholders of the two companies. Under the plan, which is subject to final approval of the West Point board or the executive committee, Lanett would become a division of West Point on January 1. Present officers would continue with the finishing plant, and John A. Simmons, Lanett president, would be elected vice-president in charge of finishing for West Point. * * * An interesting feature of the safety program at West Point is the system devised to assure that each operative is instructed on the proper and safe methods of doing his job and thus reduce the accident frequency. A large card file is set up for every operation. Each operator is checked by his supervisor on proper clothing, protective equipment, and work habits for the job. He is also checked on electrical controls, guards, and hand and power tools necessary for the job. This record is kept for each employee, with the date of the original interview and dates for follow-ups, according to Ivey L. Murray, director of training.

SUPPLIERS News

WHAT THEY ARE DOING

Emil W. Peters, formerly director of the hosiery division of Onyx Oil & Chemical Co., has been elected president of **Advanced Products Corp.**, New Hope, Pa., manufacturer of chemical specialties.

American Cyanamid Co. has announced the appointment of Dr. George L. Royer as administrative assistant to the general manager of its research division.

Dr. Royer

Formation of an expanded and strengthened technical service to rubber industry customers is announced by **American Viscose Corp.**, to handle matters in connection with the use of the corporation's tire yarns.

Former vice-president of Caldwell Chemical Co., Joseph P. Madden has joined **Antara Chemicals**, a sales division of General Aniline & Film Corp., New York, as manager of inorganic chemicals.

At the first meeting of the board of directors of **Amwool Financial Corp.**, a wholly-owned subsidiary of American Woolen Co., Frank J. Kelly was elected executive vice-president in full charge of operations of the newly formed factoring company. He was a former vice-president of James Talcott, Inc. Amwool directors and officers are: Albert A. Cree, Frederic C. Dumaine, Jr., Joseph B. Ely, Jewett T. Flagg, and Roy A. Young; with Mr. Flagg as president; George E. MacLellan, Jr., treasurer; and Cecil E. Whitney, secretary.

R. S. Lynch, president of **Atlantic Steel Co.**, is the 1954 recipient of the

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It's the Balanced Combination of Properties... *THAT COUNTS!*

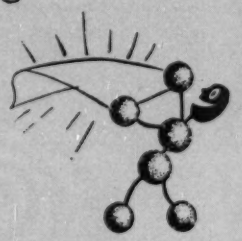
Twitchell Oils not only give you outstanding rewetting, but they provide the perfect balance of essential characteristics for better Sanforized fabrics at low cost. Prove this in your plant by ordering enough for a week's run today!

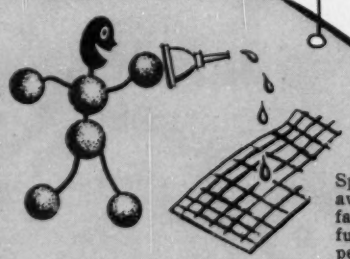
Faster production through
FAST REWETTING

With Twitchell Oils, fabrics wet back rapidly and uniformly. And, full effectiveness is retained even when treated fabrics are stored for long periods ...thus assuring maximum throughput per range under all conditions.

Better Sanforized fabrics through
FREEDOM FROM STAINING

Fabrics smell better, look better to the buyer because of the high stability of Twitchell Oils. Treated fabrics possess maximum resistance to rancidity, yellowing or staining with age... remain fresh and appealing longer.





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Speed slowing sticking at the shoes is avoided. Rejects or re-runs because of fabric distortion are minimized...thus further assuring maximum production per range.

Better Sanforized fabrics through
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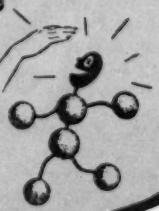
Twitchell Oils offer a range of softness to give you the hand you want, the hand that appeals to buyers. This fourth property of softness permits a reduction, or in many cases a complete elimination of softening agents.



Emery

Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

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New York • Philadelphia • Lowell, Mass. • Chicago • San Francisco
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Export: 5035 RCA Bldg., New York 20, New York

Choose the Twitchell Oil that Best Meets Your Requirements

Twitchell 7231—(All Mineral) Best for heavy starch finished and heavy-weight fabrics such as denims and other work clothing.

Twitchell 7240—(Fatty-Mineral Blend) offers the lubricity of mineral oils plus the hand of fatty oils at low cost. Best for all-purpose work.

Twitchell 7250—(All Fatty) Best for maximum rewetting speed, and for shirtings, dress goods and other light-weight, bright-color work where stability and softness are essential.

SUPPLIERS News
WHAT THEY ARE DOING

Human Relations Award of the Society for the Advancement of Management.

Bailey Meter Co. has appointed C. D. Shanks resident engineer, with headquarters in Charleston, W. Va. * * * The company's New Orleans office has moved to larger quarters at 909 South Jefferson Davis Parkway.

R. Donald Rusden has been promoted to assistant sales manager of the Textile Machinery division at **Rice Barton Corp.**, Worcester, Mass.

New representative in North Carolina and Virginia for the **Louis P. Batson Co.** is Harry L. Cannon, who will be located in Greensboro, N. C.

Food Machinery and Chemical Corp. has announced that its subsidiary, **Buffalo Electro-Chemical Co., Inc.**, will be merged with the parent organization, and will be operated as its **Becco Chemical Division.**

W. L. (Bill) Jackson, 900 South Carolina National Bank Building, Greenville, S. C., is now representing **Hill, Brown Corp.** of New York City, agents for Suddeutsche Zellwolle AG (Southern German Rayon Staple Fiber Corp.), manufacturers of solution dyed rayon staple, said to be available in 18,000 colors, 1 to 20 denier, and sold under the trademark "Danufil."

Hobbs Manufacturing Co. has appointed **Parrott & Ballentine** exclusive sales representatives for the Alquist winder in 11 southern states.

A new contract manufacturing service for machine builders has been announced by **H. W. Butterworth & Sons Co.** Butterworth recently completed a new plant addition and installed over $300,000 worth of machine tools. These facilities have been made available to machinery manufacturers who want to retain their own sales organization. Butterworth will provide engineering services if desired.

Chemical Processing Co., manufacturer of warp sizing materials, has appointed W. C. "Bill" Lynch as South Carolina sales representative.

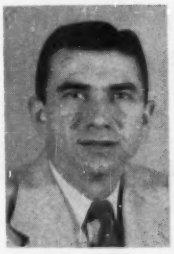
William P. Tukey has joined the sales department of **The Chemstrand Corp.**, and will be located in the New York office.

The industrial truck division of **Clark Equipment Co.** has appointed three new product sales managers: Glen R. Johnson, Jr., for gas trucks; Milton G. Peck for electric trucks; and M. B. Dickey for Ross carriers. * * * Wiley Equipment Co. now sells and services the division's line of materials handling equipment in the Atlanta area.

Arnold, Hoffman & Co., Inc., Providence, R. I., are continuing to increase their service to southern customers through the opening of an Atlanta, Ga., office and warehouse. Dwight L. Turner, formerly of Charlotte, N. C., heads the new Atlanta branch which will serve Tennessee, Georgia, Alabama, Florida, Mississippi, Louisiana, Arkansas and Texas. Other sales personnel of the branch are William Kennady, Lowell Shive, and John T. Rose. A sales service technical laboratory is scheduled to be placed in operation in Atlanta at a future date. * * * Recently appointed to the company's technical service staff and working out of the Charlotte, N. C., office and laboratory is George Speer, Jr., who was formerly with the Union Bleachery.

Mr. Turner

Mr. Kennady



Mr. Shive

Mr. Rose

Mr. Speer

Richard E. Hamm has been named advertising and sales promotion manager of **The Colson Corp.** He previously occupied the same post with Service Caster and Truck Corp., whose assets were recently acquired by Colson. W. C. Shea has been appointed manager of institutional sales and T. J. Bromeling manager of industrial sales.

The Muscle Shoals chlorine-caustic soda plant recently sold by the government to **Diamond Alkali Co.** is now in production. The plant has a daily capacity of 225 tons of chlorine and 252 tons of caustic.

Dow Chemical Co. has purchased the outstanding stock of **Versenes, Inc.**, formerly known as Bersworth Chemical Co. Manufacturing operations will be continued at the Framingham, Mass., plant.

John H. Read has joined the textile industry sales group of **Dow Corning Corp.** to assist converters and cutters in the Midwestern area.

News from **Du Pont:** Andrew E. Buchanan, Jr., has been named general manager of the company's textile fibers department; he is succeeded as assistant general manager by David H. Dawson, who in turn is succeeded by William T. Wood as general director of the department's manufacturing division. * * * New paint service warehouses for the finishes division have been completed in Birmingham and New Orleans.

A new corrugated box plant is under construction at Atlanta, Ga., for **Robert Gair Co., Inc.** Operation about February 1, 1955, is scheduled.

Walter V. Gearhart is now chairman of the board and chief executive officer, and Richard H. Osgood is president of **The Gearhart Co.**

General Aniline & Film Corp. has under construction at Calvert City, Ky., a plant for the manufacture of chemical products developed from acetylene at elevated pressures, first installation of its kind to be built in this country. Completion is scheduled for sometime during this year.

John Hetherington & Sons, Inc., is now sole agent in the United States for the cotton spinning machinery manufactured by Tweedales & Smalley (1920) Ltd.

A corrugated box plant is being constructed at Gastonia, N. C., for the **Hinde & Dauch Paper Co.**, and is ex-

CORN PRODUCTS REFINING COMPANY

Presents

A COMPLETE LINE OF STARCHES, GUMS & DEXTRINES

Highly recommended for their greater cleanliness, superior uniformity, stability of viscosity, and constant availability

GLOBE BRAND CORN STARCH

This starch is ideal for warp sizing carded or combed yarns where a thick boiling starch is advantageous or for use in homogenizers. Globe Pearl Corn Starch produces strong films, reducing breaks on the slasher and loom.

EAGLE BRAND CORN STARCH

This thin boiling starch is popular for warp sizing carded and combed yarns. Available in all fluidities, permitting viscosities required to maintain correct size concentrations for best weaving.

HERCULES BRAND CORN STARCHES

Oxidized starches are used in a wide variety of sizing applications. They produce a smooth but tough film.

WARP SIZING FOR SPUN RAYON BLENDS OR SYNTHETIC FIBER SPUN YARNS

Globe Gum and Dextrines have been popular for many years for warp sizing spun rayon. They have the superior qualities recommended for easy de-sizing.

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Globe Brand extra thick starches have less setback and make a smooth paste with reduced congealing on cooling, producing superior pastes for backfilling and printing.

Globe Gum and Dextrines are used extensively in finishing various types of textile fabrics.

***Take advantage** of our free technical service. Our lab and field experts will welcome the opportunity to help you with actual production problems. Write us today.

CORN PRODUCTS REFINING COMPANY • 17 Battery Place, New York 4, N. Y.

SUPPLIERS News — WHAT THEY ARE DOING

pected to be in operation by June, 1955.

E. F. Houghton & Co. has moved its Charlotte, N. C., offices to Suite 202, Coddington Building, 101 North Graham St.

News from **James Hunter Machine Co.:** The expander repair operations of Hunter's subsidiary, Thomas Leyland Machinery Co., Inc., have been transferred to the **Marshall and Williams Southern Corp.** * * * The company recently won a merit award for its automatic electro-psychrometer in a contest sponsored by the Associated Industries of Massachusetts to highlight new and improved products of distinction manufactured in Massachusetts.

Ideal Industries, Inc., will increase its production area by 50 per cent during the first half of 1955.

W. M. Field, president of Barnhardt International Corp., has been elected director and vice-president in charge of sales of **Industrialaire Co., Inc.,** Charlotte, N. C. He will continue his connection with Barnhardt.

Robert E. Meeker has been appointed sales manager of **Macbeth Corp.**

Metlon Corp. has announced the appointment of Gloria Dangler as advertising and promotion director.

A warehouse has been opened by **Leinart Engineering Co.,** authorized distributors of Parker tube and hose fittings and Parker o-rings, at 332 Techwood Dr., N. W., Atlanta, Ga. Lewis C. Ely is the Atlanta district manager of The Parker Appliance Company, Cleveland, Ohio.

Lewis A. Curtis has been appointed staff sales manager of **Package Machinery Co.**

Carl C. Kesler, research and development director of **Penick & Ford, Inc.,** has been elected chairman of the American Chemical Society's Division of Carbohydrate Chemistry.

New officers at **Pneumafil Corp.:** James W. Stuart, R. Hovan Hocutt, and J. Walter Barr, vice-presidents; George W. MacDow, assistant secretary and assistant treasurer; John J. Greagan, assistant to the president.

Fred Herr is now representing **Ray-Ser Dyeing Co.,** Chattanooga, Tenn., commission yarn dyers and throwsters, in Tennessee, Alabama, Georgia, and parts of North and South Carolina.

Bullard Clark Co. has appointed Doyle H. Stansell as service engineer

Mr. Stansell

to cover weaving mills in North and South Carolina for the **E. H. Jacobs Northern and Southern Divisions.**

B. Barclay Newlin, former laboratory director for Judson Mills, has joined **Polymer Southern, Inc.,** and will be in charge of sales, technical service, and developmental work on warp sizes and other preparatory materials of the company's textile division.

William H. Jones has been elected president and director of **Safety First Products Corp.**

A tract of land has been purchased at Meredosia, Ill., by **National Starch Products, Inc.,** for the construction of a second vinyl resin plant to supplement production at the Plainfield, N. J., plant.

Wool Overseers Meet in Boston

The 71st annual meeting of the National Association of Woolen & Worsted Overseers was held in the Hotel Manger, Boston, Mass., on Nov. 12-13.

In addition to the usual Guild meetings and business session, a testimonial to Barney O'Reilly was given. Mr. O'Reilly is the founder and originator of the Carders Guild and has worked in a card room since the age of 15. Believing that carding involved more than "a plug of tobacco and a #24 gauge," the honor recipient has worked for many years for the Guild in helping its membership to combine technical knowledge with practical experience. Mr. O'Reilly is employed by the Orr Felt & Blanket Co., Piqua, Ohio.

Highlight of the Carders Guild meeting was a talk by Robert C. Ashworth, Jr., president of Ashworth Bros. Inc., Fall River, Mass. Mr. Ashworth traced the history of card clothing use and manufacture from prehistoric wooden and bone combs to the present day. The speaker described the development of the hand card (toothed board), leather-based sheet of card clothing, the rotating mechanical card, the doffer, workers and stripper attachments, automatic card clothing setting machines, and finally the modern day steel wire fillet card clothing.

Talladega Foundry & Machine Co., Inc., Talladega, Alabama, has recently been incorporated. The organization has been operated as a partnership since 1929, and serves the textile mills in eight Southern states with their maintenance repair parts and castings for all departments of the mills from the opening through the weaving. The company also serves as manufacturers agent for a number of concerns on textile specialty supplies, among which are Orr slasher and clearer cloth, Peerless leather aprons, Todd-Long picker aprons, U. S. Rubber and Quaker Rubber take-up roll covering, "Hudson" spinning tape, SKF tension pulleys, Carolina Brush Company's brushes, Permacel tape, and Eriez magnets.

National Aniline Division, Allied Chemical and Dye Corp., has named

Mr. Poisson

William H. Poisson as New England representative for fiber sales and service of its new A-C nylon. He will maintain headquarters in Providence,

(Continued on page 185)

FULL WIDTH SAMPLES FROM A FEW POUNDS OF YARN . . .

Produced by the Callaway SAMPLE & RESEARCH SLASHER

A Small Versatile Slasher
Particularly Designed for
SAMPLES
TESTING
PILOT PLANTS
and RESEARCH

This new all-electric Callaway Slasher is a complete and efficient slashing unit designed particularly to fit the slashing requirements of mills which must prepare a lot of samples. It is also ideally suited for research, testing and pilot plant operations.

Using a minimum amount of yarn—cotton, synthetic, silk, wool or worsted—direct from individual packages, without warping or beaming, this little slasher is proving it can save space and money in slashing samples . . . Full-width samples without tying up a production slasher—and from less yarn.

From the stainless steel size box through the four 8″ face electrically-heated drying cylinders to the head end, essential controls and adjustments are provided for all phases of operation. Speed can be regulated from five to forty yards per minute.

At reasonable initial cost and low operating expense, this new, versatile Slasher answers many small-run slashing problems.

We will be glad to furnish you with complete details without obligation.

WPF&M WARP PREPARATION MACHINERY
AIR-DRI SLASHERS
MULTI-CYLINDER SLASHERS
CYL-AIR SLASHERS
CALLAWAY SAMPLE SLASHERS
WPF&M HI-SPEED 4 CYLINDER SLASHERS
STANDARD 2 AND 3 CYLINDER SLASHERS

SLASHER MODERNIZATION EQUIPMENT
HI-SPEED HEAD ENDS
SPECIAL WIDTH HEAD ENDS
ADDITIONAL CYLINDERS
MULTI-MOTOR DRIVES
STRETCH CONTROL UNITS
EQUI-TENSION CREELS
TEMPERATURE, SPEED AND TENSION CONTROL DEVICES
SIZE BOXES, SIZE KETTLES, AND SIZE PUMPS
CORDUROY CUTTING MACHINES AND BRUSHERS

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

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Mail to TEXTILE INDUSTRIES.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

1-1 Cartoon Booklet on Size. Booklet entitled "Adventure of Si Co featuring reprints of all cartoons carried in Seydel-Woolley Company's advertising is available on request. Write Seydel-Woolley & Company, 748 Rice St., N.W., Atlanta, Georgia.

1-2 Fireye Sees Fire. Booklet describes Fireye Detector giving general specifications and applications. Write Fireye Corporation, 720 Beacon Street, Boston 15, Mass.

1-3 "Formopon in the Textile Industry". Booklet fully describes Formopon giving the properties, chemical constitution and uses with an analysis of Sulfoxylates. Write Rohm & Haas Company, Washington Square, Philadelphia 5, Pa.

1-4 Mixing Picker. Bulletin gives the features of Sargent's Heavy Duty Mixing Picker for any fibre and any blend. Complete description with dimensions and illustration. Write C. G. Sargent's Sons Corporation, Graniteville, Mass.

1-5 Poly-V*Drives. Bulletin illustrates the new BROWNING Poly-V*drives describing the advantages of the V-Belts with the Simplicity of Flat Belts. Write Browning Manufacturing Company, Maysville, Kentucky.

1-6 Cooling Cylinders. Folder describes with illustrations the Carroll Type W. open-end cylinders as applied to the cooling of Textiles, Paper Products, Plastics, Floor Covers and many Coated Materials. Write J. E. Carroll & Company, 100-114 Cambridge St., Lowell, Massachusetts.

1-7 Arnel Triacetate. Booklet gives information on the performance versatility, textile processing, price and physical characteristics of Arnel, Write Celanese Corporation of America, Textile Division, Charlotte, North Carolina.

1-8 "Linar" Edgetrol Photoelectronic Edge Guidance. Booklet describes basic principles, gives features and applications of the "Linar" Edgetrol. Write Airlectron, Inc., 110 Washington Street, New York 6, New York.

1-9 Bulletins on Proctor & Schwartz Equipment. Current bulletins on equipment manufactured by Proctor & Schwartz include PROCTOR Air Slasher Dryer, PROCTOR Loop Dryer-Curer, the new PROCTOR Tenter Housing, Short Cut to Fine Yarn, and PROCTOR Loop Ager for Printer Fabrics. Write Proctor & Schwartz, Inc., Seventh Street and Tabor Rd., Philadelphia 20, Pa.

1-10 Hand Trucks. Catalog provides complete descriptions and specifications on full line of two wheel and platform hand trucks. Features 9000 series Steel Framed Two Wheelers and "Commander" style Steel Framed Platform Trucks. Write The Fairbanks Company, 393 Lafayette Street, New York 3, New York.

1-11 "Switches for Industry." Twenty page catalog covers over 200 precision snap-action switches, many of which are suited for use in dusty or lint filled atmospheres. Includes dimensioned photographs, electrical ratings and technical information. Write Micro Switch Div. Minneapolis-Honeywell Regulator Co., Freeport, Illinois.

1-12 Hydraulic Cylinders. Catalog describes design features, installation drawings for each of five cylinder mounting styles available: foot (bracket), flange (heat end), flange (rod end), extended tie rod and clevis. Gives all cylinder dimensions. Write Vickers, Inc., 1400 Oakman Blvd., Detroit 32, Michigan.

1-13 Fluid Couplings. Bulletin gives complete installation and performance data complete with diagrams and drawings. In addition the complete Twin Disc Fluid Coupling line is shown with standard models providing standard input, output combinations, and standard models in packaged units. Write Twin Disc Clutch Company, Dept. DS, Racine, Wisconsin.

1-14 New Handler. Literature includes photographs and complete performance data and specifications of the new Handler, a gasoline powered, rider-type lift truck. Write The Colson Corporation, Elyria, Ohio.

1-15 Picker Lap Tester. Folder illustrates and describes the Brush Picker Lap Tester, an instrument with important application in textile manufacturing. The folder illustrates the instrument and also describes its mechanical features and design advantages. Write Brush Electronics Company, 3405 Perkins Avenue, Cleveland 14, Ohio.

1-16 Portable Laboratory Dryer. Describes how the New Portable Lab Dryer will save you time, money, and man hours. Write C. G. Sargent's Sons, Corp., Graniteville, Mass.

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JANUARY, 1955

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GENERAL, ECONOMICAL MANAGEMENT . . .

4. HOW FACTORING CAN INCREASE PROFITS —Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet. — COMMERCIAL FACTORS CORP., New York City.

7. RAYON TELLS ITS STORY TO THE PUBLIC —Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public. — AMERICAN VISCOSE CORPORATION, 350 5th Ave., New York 1, N. Y.

17. A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK — 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management.—AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

19. INDUSTRIAL BUILDING — A 32-page booklet entitled "U.S.S. 12, U.S.S. 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 Stainless Steel Sheets in the construction of industrial and semi-industrial buildings.—U. S. STEEL CO., 525 William Penn Pl., Pittsburgh 30, Pa.

22. THE WONALANCET WAY — Is the title of an editorial booklet published five times a year and deals with current problems which appear worthwhile at the time they are written. — WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

PLANT & PLANT MAINTENANCE . . .

100. MOTION CONTROL WITH SILENTBLOC — Brochure describes advantages of General Tire Company's Silentbloc method of protecting delicate instruments, reducing machine vibration, etc. Write THE GENERAL TIRE CO., Industrial Products Div., Akron, Ohio.

102. "TANK TALK" — Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING — Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

106. FINNELL COMBINATION SCRUBBER-VAC —Illustrated literature gives complete specifications and describes various methods of combination-machine-scrubbing, including method recommended for cleaning oily floors. — FINNELL SYSTEMS, INC., 1300 East St., Elkhart, Indiana.

108. MAPLE FLOORING — Booklet describing finishing of Northern Hard Maple Flooring — list of M.F.M.A.-approved heavy-duty floor finishes. — MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacker Dr., Chicago 1, Ill.

110. UNBRAKO STANDARDS — Catalogue by Standard Pressed Steel Co. describes in pictures and text the company's line of Unbrako precision threaded fasteners. Several applications of each product are indicated in line drawings to suggest hundreds of others and to stimulate the imagination of design engineers. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

113. COTTON MILL EQUIPMENT — This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

117. CLEANING SYSTEMS — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two-story layout of Certified Climate central station air conditioning system. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

127. SOLENOID VALVES — Bulletin "V" lists sizes from 1/2 inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations. — THE JOHNSON CORP., Three Rivers, Mich.

129. AIR CONDITIONING AND HUMIDIFICATION — Catalog section 101 lists and briefly describes each item of the complete Bahnson line of equipment for textile mill air conditioning and humidity control. — THE BAHNSON COMPANY, Winston-Salem, N. C.

131. "AIR PROCESSING" — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

135. COLOR CONDITIONING — Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid. — E. I. DU PONT DE NEMOURS & CO., INC., Finishes Div., Wilmington 98, Delaware.

138. METAL CONVEYOR BELTS — Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Belt design and application, along with their Woven Wire constructions and Positive Drive Chain Edge belts. — ASHWORTH BROS., INC., Metal Products Div., Fall River, Mass.

146. FUNCTIONAL GLASS BLOCK DATA — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. —PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS — Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.

151. INDUSTRIAL BRUSHES — Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines — also flock, raising and cylinder brushes. — M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. LAMINATED TEXTILE PLASTICS — Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry. — SYNTHANE CORPORATION, Textile Division, Oaks, Penna.

154. AIR CONDITIONING FOR THE TEXTILE INDUSTRY — Booklet shows advantages of air conditioned mills in better products and more efficient workers, and gives values of White & Co. air conditioning in particular. — WHITE & CO., INC., 1440 S. Tryon St., P. O. Box 533, Charlotte, N. C.

158. FLOATING BOTTOM ROVING TRUCK — Booklet by Excel Textile Supply shows advantages of roving truck with automatically adjusted bottom. Eliminates reaching over into truck by keeping load level within easy reach of operator. — EXCEL TEXTILE SUPPLY CO., Lee Ave., Lincolnton, N. C.

161. AUTOMATIC CLEANING EQUIPMENT — Complete booklet by American MonoRail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit. — AMERICAN MONORAIL CO., 13107 Athens Ave., Cleveland 7, Ohio.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE — Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.— G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

169. MACHINE BRUSHES — Illustrated Folder shows many types of machine brushes and describing their particular use for printing, washing, brushing, singeing, and shearing is sent free upon request. —INDUSTRIAL BRUSH COMPANY, INC., Woodside Avenue, Little Falls, New Jersey.

173. BLOWERS AND EXHAUSTERS — Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings. — BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

174. PAINT STRIPPING BOOKLET — Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion. — OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

176. STOKERS AND BOILERROOM EQUIPMENT — For information on boilerroom problems, improvements and apparatus. — McBURNEY STOKER CO., 2110 Peachtree Rd., Atlanta, Georgia.

179. BETTER WAYS — Form 2020, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving, shipping, and production operations by all industries including the textile field. — TOLEDO SCALE CO., Box 97 Toledo, Ohio.

181. AIR FILTRATION — Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance characteristics, construction and installation fully discussed. — AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

188. PROGRESSING-CAVITY PUMPS — A new principle in pumps. Self-priming, positive displacement, uniform flow features discussed. — ROBBINS & MYERS, INC., Pump Div., Springfield, Ohio.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

201. V-BELT DRIVE CATALOG — This handy pocket-sized catalog helps you make quick and easy selections of any Dayton V-Belt Drive from 1 to 1000 HP. Contains many concise, accurate drive tables, diagrams, and other important engineering data. — DAYTON RUBBER CO., Dalton, Ohio.

203. TREADED LEATHER BELTING — This 16 page booklet describes Houghton's line of patented, specially treaded leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section. — E. F. HOUGHTON & CO., Philadelphia, Pa.

206. LOOM MOTOR BULLETIN — The new design of this ball bearing motor is claimed to represent an advance in the design of loom motors fully discussed. — THE LOUIS ALLIS CO., 427 E. Stewart St., Milwaukee, Wisconsin.

207. TRICO OILER INSTALLATION — Twelve interesting pages of actual "on the job" photos of Trico oiler applications on nationally recognized machinery and equipment. — TRICO FUSE MFG. CO., 2948 N. 5th St., Milwaukee 12, Wisc.

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TEXTILE INDUSTRIES

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Handy Return Card

USE THIS OPPORTUNITY TO INFORM YOURSELF OF CURRENTLY AVAILABLE LITERATURE DEALING WITH MACHINERY, EQUIPMENT AND SUPPLIES FOR TEXTILE MILLS, FILL OUT THE ATTACHED CARD TODAY.

HELPFUL BOOKLETS FREE!

208. CUTLER-HAMMER MOTOR CONTROL — Booklets describe the combination starters for the textile industry, for roving frames and spinning frames, loom switch and Cutler-Hammer Motor Control for textile cards. — CUTLER-HAMMER, 315 N. 12th St., Milwaukee, Wisconsin.

212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others. — THE GATES RUBBER COMPANY, 1001 Broadway Denver 17, Colo.

218. BALL BEARINGS FOR TEXTILE MACHINERY — A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing. — THE FAFNIR BEARING CO., New Britain, Conn.

222. AUTOMATIC PRODUCTION CONTROL — Booklet by Reeves Pulley Company, shows application of many automatic processes and controls to the textile industry. Well illustrated, it contains engineering data quite useful to anyone interested. — REEVES PULLEY COMPANY, Columbus, Indiana.

227. WOOLEN AND WORSTED MILL ELECTRICAL EQUIPMENT — Booklet by Westinghouse follows processes through the mill and shows application and advantages of Westinghouse equipment. — WESTINGHOUSE ELECTRIC CORP., Box 2099 Pittsburgh 30, Pennsylvania.

229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications and prices. Very comprehensive. — DODGE MANUFACTURING CORP., Mishawaka, Indiana.

235. JOHNSON LEDALOYL BEARING BRONZE —Illustrated booklet telling complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. —JOHNSON BRONZE COMPANY, New Castle, Pa.

237. MOTOR CONTROL — Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed. — CUTLER-HAMMER INC., Milwaukee, Wisc.

238. TEXTILE LEATHERS CATALOG — Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated. — J. E. RHOADS & SONS, 35 North Sixth St., Philadelphia, Pa.

241. STANDARD OILITE BRONZE BEARING CATALOG — Lists more than 700 "Standard" Bearings, Cores, Bars and Plates carried in stock by hundreds of Oilite dealers and depots throughout the United States and Canada. — AMPLEX DIVISION, Chrysler Corporation, P. O. Box 2718, Detroit 31, Michigan.

252. HOW TO STOP "LUBRICHAOS" FROM CUTTING PROFITS — Well-illustrated, factual booklet gives advantages and working principles of Alemite's "Coloroute" plan of lubrication control. Has step-by-step method of putting plan into operation. — THE ALEMITE DIVISION, Stewart-Warner Corporation, Chicago 14, Illinois.

253. TEXTILE LUBRICATION — "Lubrication" a magazine published by the Texas Co. is available. Shows methods and means of lubricating chain drives in very comprehensive form. — THE TEXAS CO., 135 East 42nd St., New York 17, N. Y.

256. METERED LUBRICATION — Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames winders, knitters, looms, etc. — BIJUR LUBRICATING CORP., Rochelle Park, N. J.

259. SUNOTEX MACHINE OIL — Booklet describing this machine oil as being "custom-made" for the textile industry. Advantages discussed and pictures of uses which includes knitting machinery. — SUN OIL COMPANY, Philadelphia 3, Pa.

262. SMALL PRECISION METAL PARTS — Catalog by Torrington Company describes many special precision metal parts made by its Specialties Division. — THE TORRINGTON COMPANY, Specialties Division, 500 Field Street, Torrington, Connecticut.

265. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, Division of General Motors Corp., Bristol, Conn.

266. SILICONE LUBRICATION — Bulletin B62-DC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in re-lubrication requirements described. — DOW-CORNING CORP., Midland, Mich.

277. SPECIAL TEXTILE MOTORS — Bulletin 51B6055A describes special features of "Quick-Clean" motors, including discussion on free air flow, prelubricates bearings, rigid cast iron frame and double insulation. — ALLIS-CHALMERS MFG. CO., Milwaukee, Wis.

280. NEW MOTOR CONTROL — 8-page promotional folder gives complete description of the new Arrow-Hart Type "LM" Loom Switch, said to be the first manual, across-the-line starter designed specifically for textiles. — INDUSTRIAL CONTROL DIVISION, Arrow-Hart and Hegeman Electric Co., 103 Hawthorne Street, Hartford 6, Conn.

INSTRUMENTS, STEAM SPECIALTIES . . .

300. HOW TO SAVE STEAM — Bulletins and case histories are available on Sarco installations, featuring a complete line of steam traps, temperature controls and heating specialties. — SARCO COMPANY, INC., Empire State Building, New York 1, N. Y.

301. JOHNSON ROTARY PRESSURE JOINTS — Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

303. PROCESS CONTROL EQUIPMENT — Catalog containing brief description of standard and special process control equipment engineered for textile industry. Includes schematic diagrams. — MASON-NEILAN REGULATOR CO., 1190 Adams St., Boston, Mass.

314. MOISTURE CONTENT CONTROL — Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications. — BARBER-COLMAN CO., Rockford, Ill.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame. — RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

324. STROBOTAC — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

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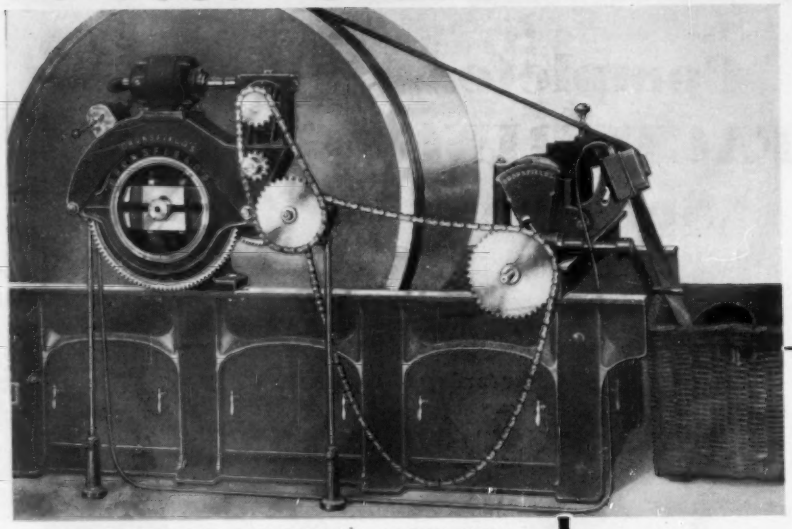

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337. COUNTING DEVICES — Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. — TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

339. NEW LUBRICATED PLUG VALVES — Illustrated booklet by The William Powell Co. features a new line of semi-steel and steel lubricated plug valves. Advantages include quick and positive shut off. — THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

341. TEXTILE ELECTRONIC TUBES — In the modern textile plant there are many electronic devices which depend on Electronic Tubes. Specialty Distributing Co. offers information on their services with regard to prompt replacement of these.—SPECIALTY DISTRIBUTING COMPANY, 425 Peachtree Street, Atlanta, Ga.

CARDING, SPINNING, WINDING . . .

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS — Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

404. LAPLESS ENDLESS SPINNER — Bulletin and full information will be supplied on lapless endless spinner and coning belting. TON-TEX CORPORATION, 31 Columbus Ave., Englewood, N. J.

406. EMCO ROTARY CUTTER WINDER—Bulletin gives applications, sizes and exclusive features. —H. W. BUTTERWORTH & SONS CO., Bethayres, Pa.

408. CARD GRINDING INFORMATION — Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information. — B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

412. SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS, INC., Gastonia, N. C.

414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

416. THE BRIEF SAGA OF THE RING TRAVELER — An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered. — NATIONAL RING TRAVELER CO., Pawtucket, R. I.

417. FEATHERTOUCH DRAFTING — Booklet describes in detail with pictures the most uniform drawing, the strongest drawing with the highest production per frame at the lowest cost. — IDEAL INDUSTRIES, INC., Bessemer City, N. C.

418. PACIFIC CONVERTER — Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend. — WARNER & SWASEY CO., Cleveland, Ohio.

419. TEXTILE APRONS — Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery. — TEXTILE APRON COMPANY, East Point, Ga.

420. AUTOMATIC FILLING WINDING — Eight page, two color booklet describing the operation and mechanism of the Hacoba winder. — ATKINSON, HASERICK & CO., 211 Congress St., Boston, Mass.

421. CARD ROLL COVERS — Brochure describing the Davis Seamless Roll Covers. Lists advantages, specifications and offers free trial. — THE TEXTILE LABORATORIES, P. O. Box 1003, Gastonia, N. C.

422. WARPER BEAMS — Folder describes the high speed for rayon tire cord, cotton warper beams, cast aluminum end supports and large diameter heads. — U. S. BOBBIN & SHUTTLE CO., Lawrence, Mass.

425. HANDY REFERENCE TABLES — Folder showing spinning traveler speeds, sizes of ring flanges, etc. — VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

426. UNIRAIL UPTWISTER — Bulletin describes Universal Winding's headless package or bobbin take-up Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed — UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence, R. I.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

435. DOUBLE DECK TWISTERS — Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up spool packages) and Acme (up to 10 oz. packages) models for high speed twisting of silk, rayon, nylon, etc., to finest deniers. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

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438. HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING — Literature shows high-speed Face Drive Twister for accurately building tapered or straight-end headless packages which go direct to quilling or warping without redrawing. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

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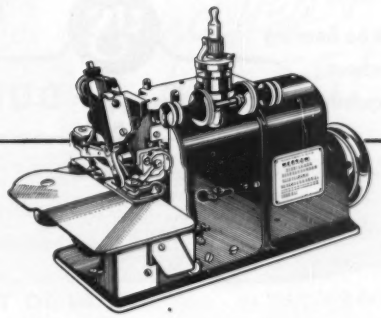

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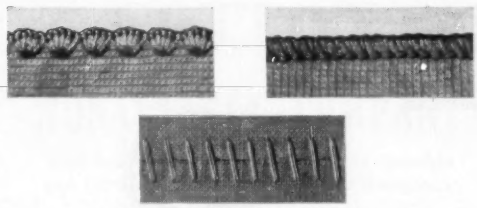

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458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers. —HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models—Standard, Warp, and Double Disc fully described with specific application. — WALTER KIDDE & CO., INC., Belleville 9, N. Y.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Co's., Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO MACHINE COMPANY, Lansdale, Pa.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. — IDEAL MACHINE SHOPS, Bessemer City, N. C.

474. BALL BEARING COMB BOXES — Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES — Color Booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies, Roll covering for Cotton, Silk and Synthetic and Woolen systems. An excellent guide book. — ARMSTRONG CORK CO., Industrial Div., Lancaster, Pa.

476. TEXTILE FIBER OPENER FOR COTTON, SYNTHETICS, WOOL — New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SRRL Opener. Complete operating procedure is described. — CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

477. METALLIC CARD CLOTHING — Color booklet by Platt Brothers describes their Patent Metallic Card Clothing. Well-Illustrated it gives applications, types of clothing for all fibers, etc. — TEXTILE INDUSTRIES, 806 Peachtree Street, Atlanta, Georgia.

478. TIPS ON CARDING PROCEDURE — Monthly bulletin by Ashworth Brothers includes many useful tips and advice on carding operation, maintenance and care and is available to anyone interested. Bulletin is a reprint of section appearing on green paper in this issue. — ASHWORTH BROTHERS, Fall River, Mass.

WEAVING, SLASHING . . .

501. LOOMS — An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms." Information on all types fully discussed. — CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502. COUNTING AND MEASURING DEVICES— Condensed textile catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery. — VEEDER-ROOT, INC., Hartford, Conn.

503. WEAVER'S KNOTTER — A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. B. CARTER, INC., Gastonia, N. C.

504. LOOM SUPPLIES — Literature describing complete line of straps, strapping, pickers, dobby cords, sticks, binders, bumpers, brake lining and allied products. — E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

506. SLASHING HINTS — A 20-page booklet offering helpful hints on warp sizing. Subjects: Size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods weighing for the mix, tips on cooking equipment, storage in kettles, etc. — SEYDEL-WOOLLEY & CO., 748 Rice St., N.W., Atlanta, Ga.

507. VARIABLE SPEED SLASHER DRIVE — Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher. — REEVES PULLEY CO., Columbus, Ind.

508. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOFER CO., Greenville, S. C.

509. MULTI-MOTOR SLASHER DRIVES — Booklet designed to bring the descriptive information on multi-motor slasher drives up to date, and emphasize the improvement in the drive through the use of Rototrol for the control of winding tension.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

521. STEEL WARP BEAMS — 20 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broad-loom and narrow fabrics. Also Textile Machinery Specialties. — MILTON MACHINE WORKS, INC., Milton, Pa.

524. JOHNSON WARP SIZES — 12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis. — CHARLES B. JOHNSON MACHINE WORKS, Piercy & Hotsman Sts., Paterson, N. J.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

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531. ALL PURPOSE BALL BEARING ROTARY UNION — Booklet gives descriptions, typical installation, engineering data with complete illustrations. — PERFECTING SERVICE CO., 332 Atando Avenue, Charlotte, N. C.

536. HOMOGENIZER IMPROVES SLASHING — Pamphlet by Manton-Gaulin Manufacturing Company shows how mechanical conversion of size by the Gaulin method produces better size. Gives installation pictures and specifications. — MANTON-GAULIN MANUFACTURING COMPANY, INC., Everett, Mass.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included. — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

539. AUTOMATIC REGAIN CONTROL OF RAYON AND SYNTHETIC FIBRE SLASHING — Technical booklet by Minneapolis-Honeywell gives data on their electronic, Multi-range "Moist-O-Graph" system for controlled regain. — MINNEAPOLIS-HONEYWELL REGULATOR CO., Station 64, Phila. 44, Pa.

540. SLASHING EQUIPMENT — Brochure by Tower Iron Works shows different types of slashing equipment, enumerating characteristics and advantages of each. — TOWER IRON WORKS, 50 Borden St., Providence 3, R. I.

545. NOPCO CHEMICAL DATA SHEETS — Now available are Nopcostats, Nopco Sizes N and D. Important points in Warp sizing, Interpretation of Analysis, Wetting Agents, Balanced wool and worsted oils, Acetate Warp Sizing, Viscose warp sizing, Rayon soaking. — NOPCO CHEMICAL CO., Harrison, N. J.

DYEING, FINISHING CLOTH ROOM . . .

601. CONTINUOUS PEROXIDE BLEACHING RANGES — Booklet gives illustrations and describes uses and gives specification of Ranges. — RODNEY HUNT MACHINE CO., 43 Mill St., Orange, Mass.

602. CONTROLLED VAT DYEING — Calco technical booklet No. 328 discusses Stabilization of Vat Dyes at Elevated Temperatures, Instrumental and Analytical Measurements, Leuco Potentials. — AMERICAN CYANAMID CO., Calco Chemical Division, Bound Brook, New Jersey.

606. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc. — B. F. PERKINS & SON, INC., Holyoke, Mass.

608. WASHERS FOR SCOURING, BLEACHING, ACIDIFYING — Well-illustrated booklet shows how Sargent's modern, high-capacity, continuous process washers can help maintain quality and decrease costs. Contains operation diagram and good commentary on construction. — C. G. SARGENT'S SONS CORPORATION, Graniteville, Massachusetts.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery. — PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY — Descriptive bulletin and full informaiton on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

616. FINISHING DRIVES — 32-page booklet covers complete drives Westinghouse has engineered for the textile finishing industry. Describes all types of finishing ranges and discusses advantages of Westinghouse drives for these installations. "Packaged" drives for batch processes covered. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS—Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job. — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

623. SELVAGE GUIDER — The Marshall and Williams positive overfeed and selvage guider is described in a brochure as being developed to meet the most modern requirements of the textile finishing industry. Full description, pictures and advantages discussed. — MARSHALL AND WILLIAMS CORPORATION, 46 Baker Street, Providence 5, R. I.

627. SINGLE APRON STOCK DRYERS — Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. — C. G. SARGENT'S SONS CORP., Graniteville, Mass.

628. TREATMENT OF SYNTHETIC TEXTILE FINISHES — High speed drying and curing of synthetic finishes by means of far-infrared radiation is covered in a new 22 page folder entitled "The Textile Report" by EDWIN L. WIEGAND COMPANY, 7700 Thomas Blvd., Pittsburgh 8, Pa.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods. Write for data sheet, 220-60, FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1-C illustrated bulletin detailing right and wrong application and use of washers. — E. H. JACOBS NORTHERN DIV., Danielson, Conn.

637. BALL BEARING TURN TABLE — Leaflet describing this 48" diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or Cloth Opening Machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

638. DYEING FINISHING MACHINES — Booklet by James Hunter Machine Company shows pictures, applications, and advantages of following: "Vapo Jet" Dryer; "Hunter Dye Beck"; "Flexreel" Rope Washer; Continuous Cloth Washer; Model "S" Dye Kettles; Compartment Washer; Fulling Mill; Top Dyeing Machine; "Uniflow" High-speed Tenter Dryer; Cloth Carbonizer. — JAMES HUNTER MACHINE CO., North Adams, Mass.

639. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

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653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate, straight line guiding of open width goods. Bulletin SG-PG. — MOUNT HOPE MACHINERY CO. 15 Fifth St., Taunton, Mass.

655. PAPER TUBES FOR YARN AND CLOTH— Complete data to help you solve your paper tube problems. Overnight delivery of yarn and cloth paper tubes and boards. Shows how warehousing of these items can be avoided. — TEXTILE PAPER PRODUCTS, Cedartown, Ga.

658. BEAM MULTIPLE DYEING — Information on the Morton System Horizontal Beam Dyeing machine is available. Features include minimum handling of beams and the use of a common or individual dyebath for as many as six beams. — MORTON MACHINE WORKS, 1718 Third Avenue, Columbus, Georgia.

DYESTUFFS, CHEMICALS, SOAPS . . .

701. MAGNESIUM APPLICATIONS — Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry.—DOW CHEMICAL CO., Midland, Mich.

704. FUNDAMENTALS OF INDUSTRIAL WATER TREATMENT PROCESSES — 24-Page booklet entitled "If You Use Water" discusses the fundamentals of the three major classifications of industrial water treatment based on ion exchange: softening, dealkalization, and deionization. — RHOM & HAAS COMPANY, Resinous Products Div., Washington Square, Philadelphia 5, Pa.

705. THEORETICAL AND APPLIED SILK-SOAKING — Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk. — HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

710. DEPUMA — An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing. — AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

713. LIOVATINE ED — Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color. — SANDOZ CHEMICAL WORKS, 61 Van Dam St., New York City.

714. NEW SODA ASH BULLETIN — 64-page edition contains both new material and revisions of previously used data covering the subject. Ask for Bulletin No. 5. — SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

715. AQUAROL AND ARKANSAS PRODUCTS — Bulletin on Aquarol water repellent tinish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing. —ARKANSAS CO., INC., Newark, N. J.

719. WOOL OIL — Descriptive booklet on antistatic fiber lubricant, Twitchell 7421. Performance factors given particular emphasis are static control, scourability, lubricity and resistance to yellowing.—EMERY INDUSTRIES, INC., Dept. 5, Carew Tower, Cincinnati 2, Ohio.

720. INDUSTRIAL OIL — Bulletin catalogs all of Swift's Industrial Oil and Fatty Acid products. Included are detailed specifications, shipping information and suggested usage on products of animal, vegetable and marine sources. — SWIFT & COMPANY, Industrial Oil Department, 1800 165th Street, Hammond, Indiana.

721. SURFAX 1288 — Product data sheet explains this useful wetting and rewetting agent. Described as being water soluble at all temperatures and is a highly concentrated, economical surface active agent. — E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

722. RESINS & LATICES — Booklet describes chemigum, latex, pliolite latex, plivoia latex, pliovic AO and their applications. Gives properties of Goodyear Latices. — GOODYEAR CHEMICAL DIV., 1144 East Market St., Akron 16, Ohio.

727. COLOR PRINCIPLES — Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurements. Booklet has been adopted by several of the leading textile schools. —SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

728. UNIQUE YARN AND DYEING SERVICE — Booklet by Franklin Process tells why Franklin Process Yarn Dyeing Service is one of the top package yarn dyeing services. Also includes table showing relative fastness of dyestuffs used on various fibers. — FRANKLIN PROCESS CO., 564 Eddy St., Providence, R. I.

729. STATIC AND STATIC CONTROL — Papers deal with historical background of static electricity and the problems caused by it; along with methods of controlling them. — DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

733. WOOL OILS — Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil. — PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

734. BLEACHING WITH PEROXYGEN CHEMICALS — Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept., Bulletin No. 52, now available. — BUFFALO ELECTRO-CHEMICAL CO., INC., Station B, Buffalo 7, New York.

745. RAPIDASE FOR DESIZING — Bulletin explaining in detail the properties and characteristics of Rapidase. — WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

749. WATER SOLUBLE GUMS — Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet, No. 23 is beautifully illustrated, and is one of the few treatises on the subject. — JACQUES WOLF & CO., Passaic, N. J.

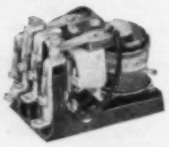
753. TRITON X-100 — Booklet available describing this highly concentrated detergent and wetting agent. Main uses fully discussed and chemical properties brought out. — ROHM & HAAS COMPANY, Philadelphia 5, Pa.

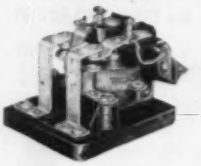
757. THE CHEMISTRY OF CYNANURIC CHLORIDE — Very comprehensive technical text by American Cyanamid Co. Gives Physical Properties, Reaction Chart, Chemical Properties, Potential Applications, Toxicity, Table of Alcohol Reactions, Table of Amine and Related Compound Reactions. — AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

768. DU PONT PEROXIDE BLEACHING SYSTEMS — New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included. — E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

769. SURFACE TENSION DEPRESSANT — The booklet, "Mercerizing and Alkamerce—The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing. — HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

773. TECHNICAL CHEMICAL DATA SHEETS — Complete set for dyeing, printing and finishing operation, showing major operations, performance and advantages. — ONYX OIL & CHEMICAL CO., 190 Warren St., Jersey City 2, N. J.





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774. **ROYCE TEXTILE CHEMICALS** — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing. — ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

801. **THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE** — Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

808. **REINER WARPER** — Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog. — ROBERT REINER, INC., Weehawken, N. J.

818. **MILTON LIGHT METAL BEAMS FOR EVERY APPLICATION** — Catalog 45-A describing Light Metal Tricot Beams made in Standard and Special sizes plus Special Purpose Light Metal Textile Equipment.—MILTON MACHINE WORKS, INC., Milton, Pa.

823. **VARIABLE STRIPER** — Booklet available describing Supreme's complete line of automatic Variable Stripers and Pattern Placer Machines. — SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., Brooklyn 6, N. Y.

828. **THE KIDDE KNITTER** — Bulletin describing this newest in Raschel-type warp knitting machine and higher production attained with it. — KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

924. **BUTT-TACKING SEWING MACHINE** — Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking. — THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

925. **SEWING MACHINES** — The Lock-Stitch bulletin No. 258 describes and illustrates new, high speed, single needle Union Special Lock-Stitch machine for general purpose industrial sewing operations. — UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Illinois.

MATERIALS HANDLING . . .

1000. **MATERIALS HANDLING SPECIALS** — Color Booklet by Kennett Equipment and Machinery Co., describes their complete line of materials handling devices. — KENNETT EQUIPMENT AND MACHINERY CO., Kennett Square, Pa.

1003. **CASTERS AND WHEELS** — 192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this. — DARNELL CORP., LTD., Long Beach 4, Calif.

1006. **LANE CANVAS BASKETS** — 16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. **OVERHEAD HANDLING EQUIPMENT** — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. **CASTERS AND WHEELS** — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters. — THE COLSON CORP., Elyria, Ohio.

1010. **CONVEYOR KEY BOOK** — A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results. — LOGAN CO., 1115 Franklin St., Louisville, Ky.

1011. **TEXTILE TRUCKS** — Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description. — EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1013. **"A STORY OF TRACTOR TOOLS AND THEIR USE"** — Comprehensive illustrated guide effectively present in cartoon-style the many principal uses for this type of equipment. — HYSTER CO., 2903 N.E., Clackamas St., Portland 8, Ore.

1030. **CDF RECEPTACLES** — This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL FIBRE CO., Newark 11, Del.

1032. **ELECTRIC CHAIN HOISTS** — Bulletin 852 describing Robbins & Myers Type "JC" Electric Chain Hoists. Capacities 500, 1000, and 2000 pounds. — ROBBINS & MYERS, INC., Hoist & Crane Div., Springfield, Ohio.

MISCELLANEOUS . . .

1102. **BALING PRESSES** — An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models. — ECONOMY BALER CO., Ann Arbor, Mich.

1103. **UNBRAKO SCREWS** — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1108. **FABRICATION OF U. S. STAINLESS STEELS** — 136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosive-resistance tables for chemicals. — CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Pa.

1111. **BRUSHES** — A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry. — GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. **THE RANDOM WEB PROCESS** — Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cutaway diagrams.—CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

1113. **MACHINE KNIVES** — Catalog and price sheets describing this company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. **TEXTILE WRAPPING MACHINES** — Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made. — HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1122. **BALING PRESSES** — Bulletins available describing this company's line of motor-driven and hydraulic baling-presses for finished-goods, textile fibers, wool, and waste of all kinds. — LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee, Wis.

R. I. Daniel M. Holsenbeck, Jr., has been appointed to a similar position, covering the southern states from Greensboro, N. C.

Emkay Chemical Co. has appointed E. L. Rodgers to handle its technical

Mr. Rodgers

sales in Georgia and Alabama. He will have headquarters in Sylacauga, Ala.

H. B. "Booch" Askew, manufacturer's agent, now represents **Ragan Ring Co.** and **Turner & Chapman** (successors to MacMillan Co.) in the states of Georgia, Alabama, Tennessee, Mississippi, and Texas.

Breckinridge K. Tremaine has joined **Rhodia, Inc.,** as technical director of its industrial "Alamask" reodorant division. The division manufactures a line of industrial reodorants for the abatement of air and water borne odors from textile dyeing and finishing operations.

Rohm & Haas Co. of Canada Ltd. has opened a new plant and warehouse at West Hill, Ontario, in suburban Toronto.

Arthur R. Connor has joined the **Rodney Hunt Machine Co.** as manager of the textile machinery division.

Mr. Connor

He was formerly director of the finishing plant of Cia. Textilera Ariguanabo, S. A., Cuba.

Promotions at **Tennessee Corp.:** E. H. Shelton to general sales manager; L. S. Kaniecki to manager, chemical sales; H. G. Cunningham to assistant manager, chemical sales; R. W. Alexander to assistant general manager, Lockland, Ohio, plant.

Saco - Lowell Shops have announced that they will proceed at once to start a building project in the South for their machinery and repair parts business. A specific location has not been selected.

Frank P. Mackinney has been appointed manager of the southeastern territory of **Sandoz Chemical Works, Inc.**

Scott & Williams, Inc., has announced the appointment of William O. McMillan as vice-president in charge of experimental development and product engineering.

John J. Kaufmann, Jr., has been named executive vice-president of **Steel Heddle Mfg. Co.**

Herbert H. Robbins, Cali, Colombia, has been appointed representative for **Strandberg Engineering Laboratories,** Greensboro, N. C.

Harold B. Cameron, sales engineer, is now associated with **Standard Mill Supply Co.,** Pawtucket, R. I., after an absence of five years.

The manufacturing and office facilities of **Venango Engineering Co., Inc.,** have been moved to the company's new building at Torresdale Ave. and Wingate St., Philadelphia 36, Pa.

SUPPLIERS News
WHAT THEY ARE DOING

James H. Kennedy, formerly with McGraw-Hill, is now senior associate

Mr. Kennedy

and administrative assistant with the management-consulting firm of **Bruce Payne & Associates, Inc.**

The **Chas. S. Tanner Co.** announces that in the future the sale of the "Versenes" manufactured by Versenes, Inc. (recently purchased by Dow Chemical Co.) will be handled

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As Production Engineers we specialize in the utilization of

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the world's most famous elastic yarn—made in a complete range of sizes and tensions for knitting, weaving or shirring elastic fabrics.

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the first extruded latex thread—long a favorite for all types of webbing. Available in regular and in the heat-resistant compound pioneered by U. S. Rubber to meet postwar laundering requirements.

MIRASPUN...

the supersoft, superfine elastic yarn—developed and made only by United States Rubber Company, vital for knitting or weaving the lightest and sheerest of fabrics.

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"U. S." trademark for one of the original cut-rubber threads—used for many generations by industry in all kinds of narrow elastics. Also available in the heat-resistant compound.

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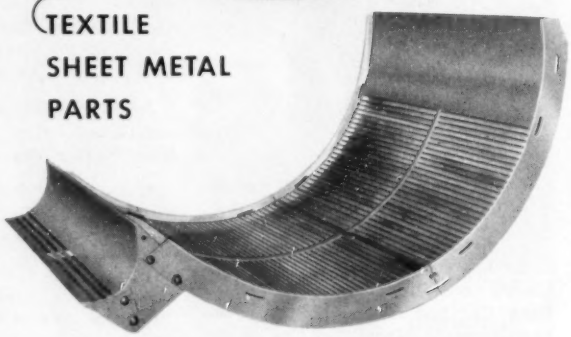

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Standard type rib or perforated Card Screens are cut and assembled on special precision-built jigs of our own design.

Every piece of metal . . . every point of assembly is gauged with micrometer accuracy . . . checked and double-checked, followed by a thorough, scientific final inspection to assure setting points within standard tolerance.

GASTONIA Card Screens—like all other GASTONIA Products—are made of the finest materials by highly skilled workmen with precision machinery.

Many years of practical experience go into every product.

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Dynamically balanced for better performance—reduce vibration to an absolute minimum.

SCREENS
Picker, Condenser and Waste Machine Screens of maximum strength and durability.

ASPIRATORS
Precision manufacturing methods assure proper shape and balance of Aspirators and Aspirator Dampers.

LAP CONDUCTOR TINS
WASTE CHUTE COVERS
WASTE CHUTES
SLIVER PANS
BACK TINS

COMBER RENEEDLING
Top Combs, Half Laps and Winder Guide Combs precision-rebuilt of top quality materials to manufacturer's standard specifications. Imported English needles of tempered high-tensile steel used exclusively.

Gastonia TEXTILE SHEET METAL WORKS
Gastonia, North Carolina

A sheet metal works serving textile mills

SUPPLIERS News
WHAT THEY ARE DOING

in the South by direct representatives of the Tanner company.

Turner & Chapman have purchased the assets of and succeed MacMillan & Co., beam manufacturers and rebuilders. E. Herben Turner is business manager, and T. Wade Chapman is production manager.

New representative in Virginia and

Mr. Taylor

North Carolina for **Synthron, Inc.,** is Allen W. Taylor.

Sales department appointments at **Twin Disc Clutch Co.:** R. C. McRoberts, assistant sales manager, hydraulic division; J. B. Schubeler, manager, export sales; E. H. Bennett, district manager, Dallas, Texas.

F. C. Huyck & Sons are offering the services of R. B. Neville to the

Mr. Neville

cotton finishing industry as field service engineer.

The newly formed **Textile Waste Institute of America,** Rhodes-Haverty Building, Atlanta, Ga., is an association for the textile waste dealers of the United States. Officers are: president, Willard Lewis, Riverside Mills, Augusta, Ga.; vice-president, Robert Weir, New England Waste Co., Atlanta, Ga.; secretary, Thomas Morgan, International Corp., Atlanta, Ga.; treasurer, Warren Coleman, Warren Coleman, Inc., Atlanta, Ga.; executive director, Lewis F. Gordon, Atlanta, Ga.

News in Brief

(Continued from page 75)

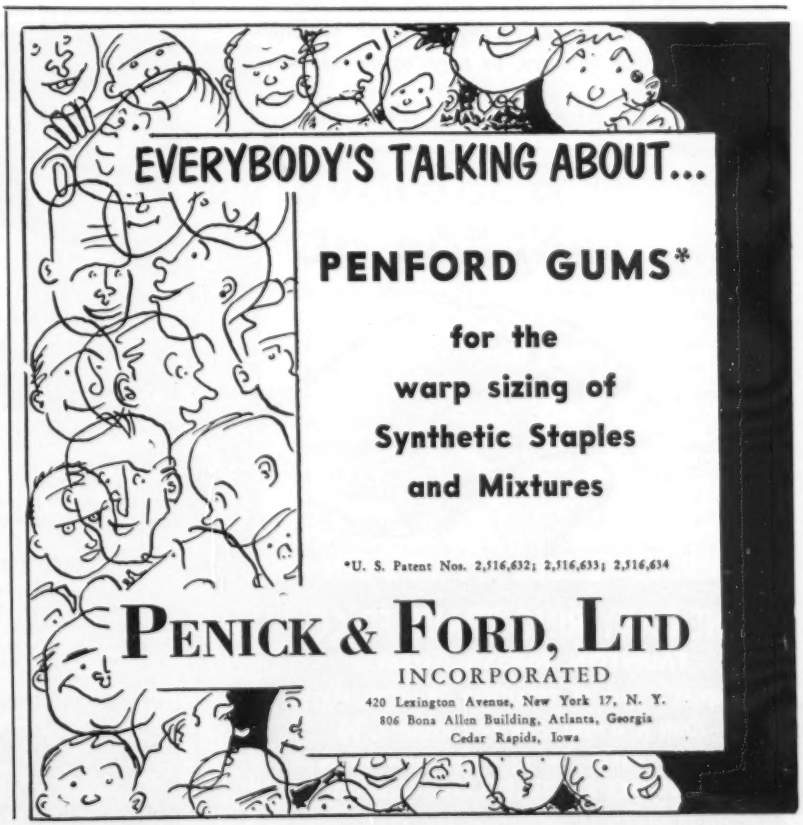
Canadian Company Sued for Trade-Mark Infringement. Vanity Fair Mills, Inc., has filed a complaint in the United States District Court for the Southern District of New York against T. Eaton Co., Ltd., Canadian department store chain and mail order house, which alleges "persistent, intentional infringement and illegal 'purloining' of its 'Vanity Fair' trademark." Vanity Fair Mills charge that the Canadian company has been substituting feminine underwear of its own manufacture and applying the trade-mark "Vanity Fair" to it without authorization. The Eaton Co. formerly carried the Vanity Fair line.

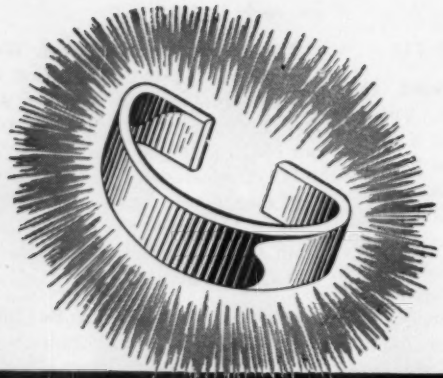
Crepe Nylon Stockings for Hungary. First crepe nylon stockings to be made in Hungary are now undergoing wear tests, reports the Hungarian News and Information Service. If the tests are successful, mass production is scheduled to begin early in 1955.

Carpet Production Down. Wool and blended carpet production for the first nine months of 1954 was 41,162,000 square yards, down 20 per cent for the comparable period of 1953. However, production for the month of September, 1954, showed a decline of only 5 per cent from the September, 1953, level.—The Carpet Institute.

Automation Show to Be Initiated. A Production Engineering Show will be launched in Chicago next September 6 to 17, to cover the comparatively new field of automation—the field which deals with automatic mechanisms and techniques for the manufacturing and processing industries. The new show is to be held at the same time as the annual Machine Tool Show, the largest single industry exhibition held in the United States.

Wool Men Won't Hold Still for Sacrificial Knife. Inclusion of wool blankets on the "sacrificial" bargaining list of products on which





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Our specialty is making Dary ring travelers—an item well and favorably known to the textile trade for more than half a century. Though times change, we at Dary hold to one course without deviation. We continue to serve, by pursuing our specialty.

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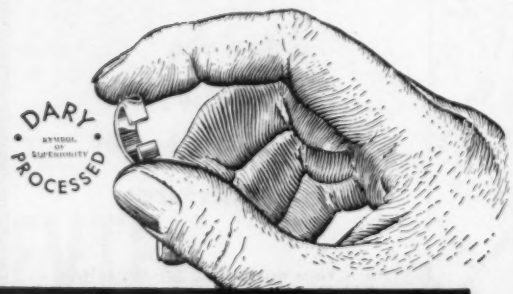

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JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S.C.

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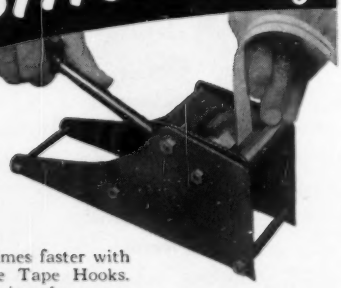
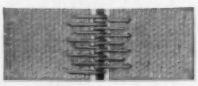


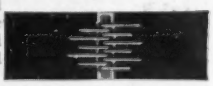
SPINDLE TAPE LACING EQUIPMENT



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper
BELT LACING EQUIPMENT

the United States is willing to negotiate tariff reductions to aid Japan has drawn sharp protest from the National Association of Wool Manufacturers. The NAWM contends that blanket imports are going up while domestic production has declined; blankets are an important defense item; Japan is not a major source of blankets, and therefore "it must be concluded that blankets are on this list as bait for three-way, or even more complex trading schemes."

Textile Earnings Improve Steadily. Most indications are that a "rather solid foundation" has been laid to help improve conditions in the textile industry. Gross manufacturing margins have improved steadily. The liquidation of inventories has relieved pressure caused by hand-to-mouth buying by the trade and working off of accumulated inventories. Other factors which indicate expansion of textile earnings: policy of plant modernization pursued by many of the industry's leaders, acquisitions and mergers, and closing of a number of marginal mills. — *Market Letter,* Courts & Co.

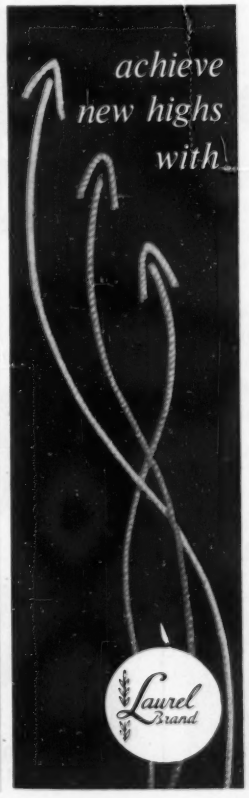
Davidson to Produce Potential Rambling Wrecks. Davidson College and Georgia Institute of Technology have announced a joint program in which potential engineers will first study for three years in a liberal arts curriculum at Davidson, and then will study for two years in their engineering specialty at Georgia Tech. On completion of the five-year course, candidates will receive both the BA and BS degrees. Davidson has a similar arrangement with Columbia University School of Engineering, and Georgia Tech with The University of the South [see TEXTILE INDUSTRIES for August, 1954, p. 71].

NAWM Asks Free Wool Imports. Increased Tariff on Wool Goods. Removal of the present U. S. duty of 25½ cents per pound on apparel wool imports would put wool in full competition with other fibers, according to Edwin Wilkinson, executive vice-president of the National Association of Wool Manufacturers. However, the NAWM also seeks higher duties on imported wool textiles. The apparent inconsistency is explained by the fact that the U. S. is increasingly dependent on foreign wool—imports before the War were only 20 per cent of consumption, now account for 60 per cent of apparel wool consumed here—and domestic wool growers are protected by a system of incentive payments provided for in the new wool act passed during the last session of Congress. However, while the U. S. needs foreign wool, the American wool manufacturing industry is more than adequate to meet peacetime needs and is a vital national asset in time of emergency.

Automatic Silk Reeling Adopted in Japan. The curbs imposed by the Japanese government on the use of land for raising of non-food crops has caused a sharp increase in the price of silk cocoons, and consequently has made it necessary for silk processors to reduce labor costs if the silk fiber is to have a chance in the race with its synthetic competitors. This situation has led to the installation of a considerable number of automatic reeling machines, which had heretofore been unnecessary. Raw silk reeled by the automatic machine is said to have less variation in fineness than that produced on the previously used multi-reeling machine, is slightly higher in strength, and is prepared in a skein which is easily handled by weavers.—*Kureha Textile Review* (Japan).

News in Brief

RISD in the Red. Expenses and appropriations at the Rhode Island School of Design exceeded income by $59,122 for the fiscal year ended last June 30th, the School's annual report discloses. Expenses and appropriations were $1,080,576, against income of $1,021,454. Student payments in tuition and fees accounted for only 38 per cent of the School's income, the balance



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CHENILLE YARNS—Hydrocop—used with Mildant RX—will produce perfectly conditioned, smooth running, mildew resistant chenille yarns.

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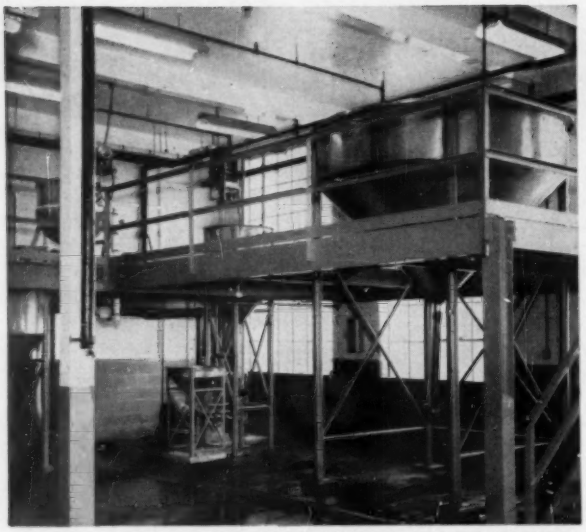

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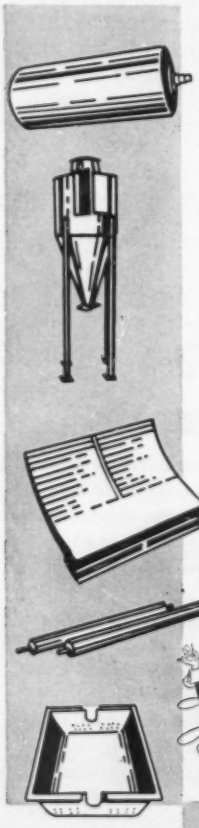

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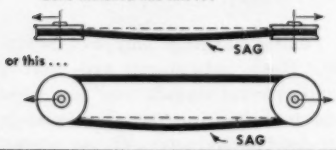

or this . . .

There can be no "sag error" in belts matched like this.

(Sales Plug: We don't match the sag. Durkee-Atwood vertical matching means perfect matching with each belt tested individually to guarantee matchability).

See your D-A distributor or write Dept. TI-1 for catalog that includes conversion tables, engineering data, latest Rubber Manufacturers Association horsepower ratings, drive selections and helpful Do's and Don'ts of V-belt operation.

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News in Brief

coming from gifts, bequests, and earnings from endowment funds.

British to Organize Their Own Overseas Exhibits. The Textile Recorder (Machinery & Accessories) Exhibitions, Ltd., has formed an Overseas Fairs Division which will act as the official coordinating body for the organization of British textile machinery displays at overseas fairs and exhibitions. The Division will negotiate with officials of international exhibitions to obtain the best possible facilities for British exhibitors, who are dissatisfied with their representation compared to that of foreign competitors at recent exhibits.

N. C. State to Evaluate Fibers for Du Pont. The Du Pont Co. has awarded a two-year research project to the School of Textiles, North Carolina State College, under which the School's Department of Textile Research will develop comparative data on rayon, acetate, nylon, Orlon, and Dacron for the engineering of fabrics in specific end uses. The physical properties of the fibers will be measured under a wide range of conditions of temperature and relative humidity. The results are expected to provide engineering handbook data for the use of fabric development technologists.

Recent Patents. USP 2,685,185, Bruce G. Wagoner assignor to Crown Hosiery Mill, High Point, N. C., for a dial needle control for ribbed fabric knitting machines, whereby a complete stocking of the half-hose type can be knit in a continuous operation to provide a ribbed or plain knit top provided with a selvage knitted in advance of the top, a ribbed leg and instep, and a plain knit heel, sole, and toe. . . . USP 2,677,507, John W. May assignor to Deering Milliken Research Trust, Pendleton, S. C., for a tail cutter for winding machines.

Giant Asbestos Mill Opened. What is claimed to be the largest asbestos milling plant in the world has been opened by the Johns-Manville Corp. at Asbestos, Quebec. It will supply more than one-third of the free world's supply of asbestos fiber, most of which is used in the United States.

Cotton Research Report Available. The proceedings of the 1954 Cotton Research Clinic are now available, Dr. Leonard Smith, director of utilization research for the National Cotton Council, reports. Single copies may be obtained without cost from the Council's Technical Department, 1832 M Street, N. W., Washington 6, D. C.

"Do-It-Yourself" Fad Spreads to the Plant. Some executives use the services of company workers for personal chores — taking down screens, washing the family cat, etc. This practice filters down the line: supervisors bring in items from home for repair on company time, employees do their own fixing on company time. Thus, management has the headache of curing the practice it started. — *Management Newsletter,* National Foremen's Institute.

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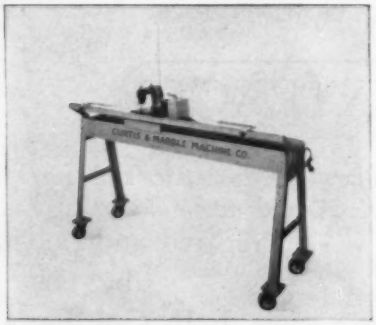

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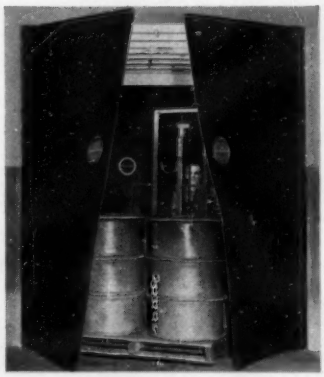
NOW USED IN THE TEXTILE INDUSTRY AND IN DYEING AND FINISHING PLANTS



PREVENTS LOSS OF CONDITIONED AIR
in spinning and weaving rooms or other areas with controlled temperature, humidity, etc.

PREVENTS SPREAD OF FUMES
in dyeing and finishing plants and in chemical textile processes, particularly in the manufacturing of synthetic fibres.

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in material handling due to stopping or slowing down for opening of doors.

PREVENTS HIGH COST OF REPAIRS
of solid-type doors.

Made of reinforced, resilient, tough rubber (neoprene if desired) sheets, suspended from steel frames. Built-in, double acting springs. Used by many of the biggest manufacturers in the textile industry. Write for descriptive literature.

Candor Engineering Co.
Box 210A Montclair, N. J.

Direct Spinner

(Continued from page 85)

types are available: (1) Type ES—sliver cans from which machine is fed are placed below the frame in a room or cellar below the spinning room (first described in TI for September, 1952, page 221); (2) Type KS—single-sided ring spinning frame with cans of sliver placed inside the frame—this type is manufactured in a left-hand and right-hand model so that both can be located in the spinning room in such a way that an aisle is left between them for easy replacement of cans; (3) Type RSK—frame of conventional size with the special overhead can creel and drafting mechanism described above.

J. Pfenningsberg & Co., M. Gladbach, Germany.

For additional data, request item A-406, using Handy Return Card on page 177.

NEW Equipment AND MATERIALS

Other items are described on pages 81, 83, 85

Tension Control Responds to Changes in One Second or Less

The "Lod-Cap" tension control device controls tension—any tension—whether it be measured in ounces or tons, and controls it so closely that reaction to changes in tension takes place within one second.

Installation of a Lod-Cap unit is so simple that it only requires that the line be shut down for about one hour. The unit is installed at one end of an existing idler roller. Inside a formed diaphragm supports one end of the idler roller via a pillow block bearing mounted on the top of the Lod-Cap unit. Air pressure, supplied from the factory at 60 pounds minimum pressure, is proportioned to bear against the other side of the diaphragm by means of a poppet valve and is automatically balanced to the desired load of tension on the roller.

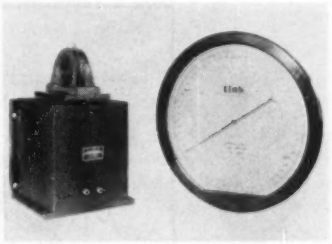
Once the operator has balanced the controller—the work of only seconds—any variation in the desired tension on the idler roller will cause the controller to automatically transmit corrective action.

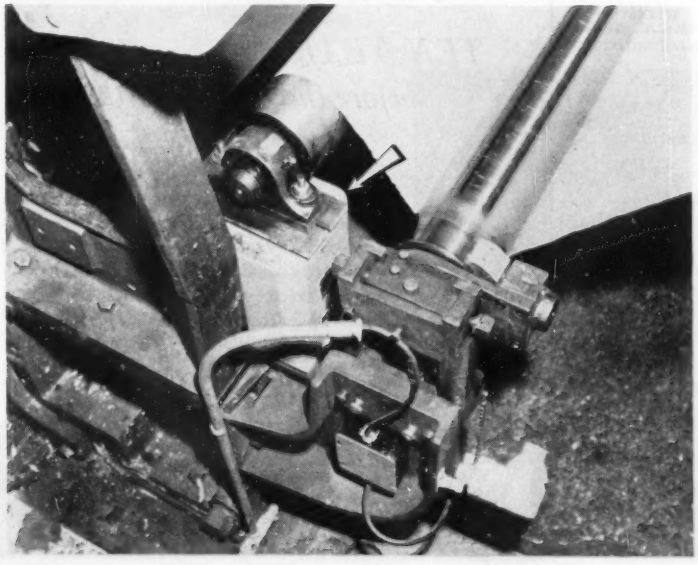
The majority of the installations in the textile manufacturing field have been automatically controlled, either at the let-off or the wind-up ends. Standard pressure recorders, pressure, or standard pressure-recorder-controllers are used. Output signal of the tension changes is fed into the recorder-controller unit and that unit, in turn, energizes a pneumatic brake or a standard mechanical brake-shoe arrangement to slow down or stop the material. In dealing with large rolls of material a pneumatic diaphragm operator can be applied to the brake-shoe lining itself to eliminate manual adjustment; whereupon the system will automatically control tension and maintain tension force, regardless of the reduction of diameter of the let-off roll.

Installation is so simple, and so trouble-free in operation, that it is not necessary to stock spare parts.

Link Engineering Co., Detroit 27, Mich.

For additional data, request item A-111, using Handy Return Card on page 177.





Below: Mill installation photo of Link Engineering Co.'s "Lod-Cap" tension control (arrow indicates). Right, close up of control itself.

Economy Model Filling Spindle

The new money-saving Hartford ball bearing filling spindle with split base employs the same precision-ground blade and the same pre-lubricated ball bearings of the Hartford filling spindle with plumbing adjustment. But by the elimination of this adjustment and adoption of the conveniently-serviced split base, the manufacturer has created an economy spindle.

Wherever plumbing by shims is satisfactory, this new spindle brings installation economy along with the advantages of two pre-lubricated ball bearings, which require no lubrication for an estimated five years and thus reduce oil mist to assure cleaner yarn.

Hartford Machine Screw Co., Hartford, Conn.

For additional data, request item A-102, using Handy Return Card on page 177.

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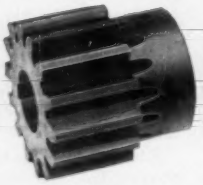
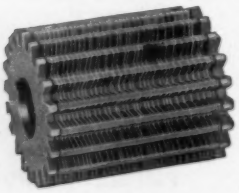


BAKELITE GEARS

SILENT CHAINS & SPROCKETS

WORMS & WORM GEARS



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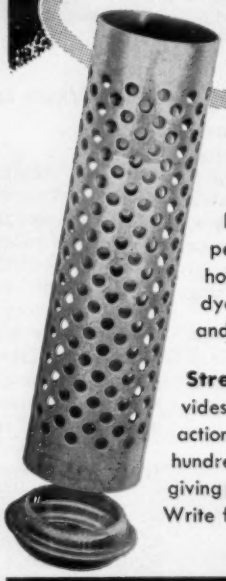

. . . for your package dyeing machines

Precision Built: These tubes are perfectly sized for roundness, and holes are evenly spaced for uniform dye penetration. Ends are 100% level and rounded to prevent snagging.

Strength: Type 304 stainless steel provides great resistance against crushing action and passes all acid tests. Several hundred thousand of these tubes are now giving perfect service in Southern dye plants. Write for quotations.

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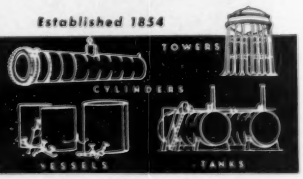
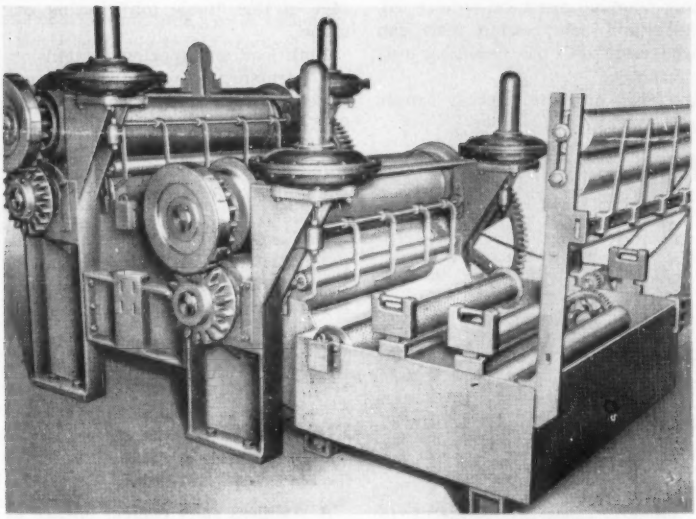




Sargent's backwasher for worsted combing plants.

Wash and Dry 700 lb/hr Worsted Card Sliver with this Equipment

A new development for worsted combing plants running card sliver, dyed wool top, and synthetic top is Sargent's new design backwasher and backwash dryer which accommodates up to 48 3-ounce ends at one time and features proven production of 700 lb per hr.

The unit usually consists of two or three stainless steel bowls, pneumatic roller bearing type squeeze rolls, and a four-section single-pass dryer.

Some of the features of the new equipment are:

(1) Washer unit is driven by 5 hp Syncrogear motor.

(2) Immerser roll is designed for speedy, thorough liquor penetration.

(3) Squeeze rolls pressure approximately 9 tons, by Foxboro Stabi-flow diaphragm loading unit.

(4) Entirely new type dryer—card sliver is conveyed through chamber on cadmium plated steel apron mounted on roller chain. Conveyor is driven by variable speed drive with 3-1 variation and is equipped with an electric brake. Uniform heat penetration of sliver is provided, permitting use of temperatures not over 220 F, so that there are no brittle fibers.

(5) Exceptional ease of threading ends through dryer—simplicity of design and operation, easy inspection of ends or top while being dried.

(6) Dryer may be equipped with automatic temperature and humidity controls if desired.

(7) New 48-ball creel is available which handles balls up to 18" in diameter, 16 balls on each of three frames. 5" diameter stainless steel rolls properly support and feed material to backwasher.

C. G. Sargent's Sons Corp., Graniteville, Mass.

For additional data, request item A-101, using Handy Return Card on page 177.

Apply Oil at Tricot Warper, Eliminate Throwing

By utilizing the Reiner automatic oil feed unit and oil bath on tricot warpers to apply a specially compounded oil to the warp yarns being processed, tricot knitters can eliminate throwing costs and achieve smoother knitting—the danger of filament ballooning and fracturing is decreased substantially.

The device consists of a roller immersed in an oil bath. The drive speed of the roller is adjusted to assure a rate of yarn lubrication commensurate with warping speed.

Robert Reiner, Inc., Weehawken, N. J.

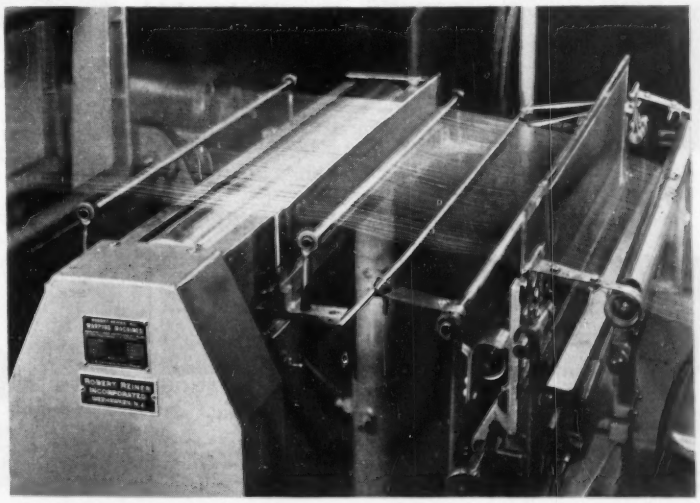
For additional data, request item A-114, using Handy Return Card on page 177.

New Nylon Staple for Floor Covering and Upholstery Fabrics

A new nylon staple fiber designed to meet demands of the trade for higher strength, brighter luster, greater dye absorption, abrasion resistance, and resiliency will be available in a wide range of lengths and deniers and with a new type of crimp.

The deep dyeing characteristics and speed with which dye is absorbed result in more complete exhaustion of the dye bath, so that dyeing can be accomplished on a more economical basis. In addition to a semi-dull luster, this new fiber is being produced in a brighter-than-bright luster that greatly enhances the ap-

Yarn oiling attachment for tricot warpers (Reiner).



NEW Equipment AND MATERIALS

peal and interest in floor coverings, upholstery, and other fabrics.

The new abrasion characteristics and resiliency will be particularly attractive to the carpet industry. Experience has already shown that carpeting which is less crushable can be produced with this new fiber which is made from caprolactam through improved polymerization and fiber manufacturing techniques.

Industrial Rayon Corp., 500 Fifth Avenue, New York, N. Y.

For additional data, request item A-122, using Handy Return Card on page 177.

Low Capacity Testing Machine Has Ranges from 0.4 to 200 lb

For tensile testing of fabrics, fine metal wire, and other materials, a new 200-lb capacity Electromatic testing machine has been announced. Flexure and compression tests can also be made with this universal testing machine.

Any one of eight testing ranges

from 0.4 lb to 200 lb is instantly available by flipping the range selector switch. In place of the normal dial indicator, an Olsen XY electronic recorder is mounted in the face of this "table top" testing machine.

Both load and specimen extensions are permanently recorded on graph paper. Strain magnifications from 0.5X to 40X are provided. Extreme sensitivity in all testing ranges is assured by the double torque bar weighing system coupled with the recorder.

Tinius Olsen Testing Machine Company, Easton Road, Willow Grove, Pa.

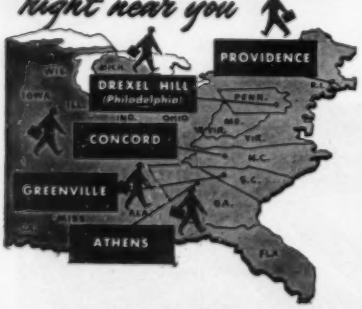
For additional data, request item A-601, using Handy Return Card on page 177.

Electronic Opener for Open-Width Wet Processing

A stainless steel conical opener or spreader and guider is used on dye kettles for tufted carpeting to keep the carpet free of wrinkles and central in the dye kettle. It is also used ahead of squeeze rolls and other applications, such as continuous machines, and is made in widths from 3 to 20 feet.

The unit is constructed of stainless

A "U.S." Service Man is right near you



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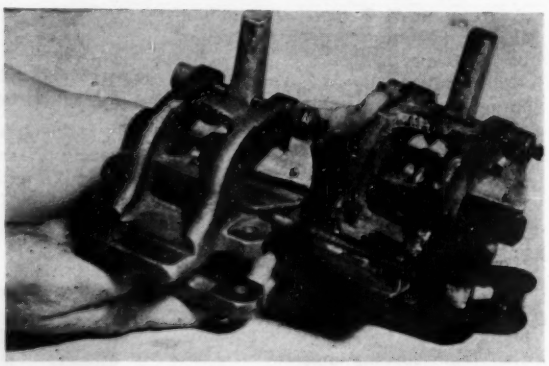

CLEANING TENTER CHAINS? Look at this — two links from the same chain, but the one on the left has just been cleaned in a boiling solution of Oakite Stripper R-6. All oil, grease, and lint soaked off—and no scraping or brushing required.

Try it on your tenter chains. Just ask your local Oakite Technical Service Representative, or write, Oakite Products, Inc., 26C Rector St., New York 6, N. Y.

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steel throughout, is equipped with ball-bearing-mounted rolls, electric brakes, and electronic control for actuating the electric brakes.

When in operation, the mere touch of the selvage of the damp fabric web against a selvage feeler is sufficient to actuate the electronic control circuit, which in turn applies the brake on the roll on the side to which the fabric web has shifted, thereby stopping the roll and causing the fabric to shift in the other direction until contact with the feeler is broken.

The advantages of this type of control are: (1) No harmful or injurious electric current in the kettle to cause short circuit damage to controls or injury to operators through accidental grounding due to high humidity or other causes; (2) No distortion of selvage such as might be caused by mechanical switching means.

Birch Brothers, Inc., 32 Kent St., Somerville 43, Mass.

For additional data, request item A-120, using Handy Return Card on page 177.

Overseaming Machines Cut Production Cost

A completely new line of curved needle overseaming machines, designated as Class 39500, includes two- and three-thread units designed to handle many seaming, welting, hemming, overedging, and serging operations.

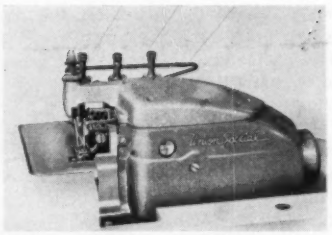
The new machines will provide highly important competitive advantages in cutting unit costs, eliminating maintenance time, and establishing entirely new standards for quality of work produced. Operating speeds possible are well above any figures ever quoted for equipment of this type. From modern, streamlined outer design to the innermost mechanism, the machine has been built to accelerate quicker, run faster, operate more smoothly and quietly with less maintenance, and yield a greater profit than any other like equipment available.

Machine styles now being made include the following:

Style 39500 A for seaming light and medium weight flat, warp, and ribbed knit fabrics of cotton, silk, or similar weight synthetics with the three-thread overseaming stitch, Type 504.

Style 39500 B for seaming light and medium weight flat, warp, and ribbed knit fabrics of cotton, silk, or similar weight synthetics.

Style 39500 F, a differential feed



Style 39500 A semi-submerged machine for overseaming by Union Special.

machine for blind-stitch welting or hemming on light and medium weight flat, warp, and ribbed knit fabrics of cotton, silk, or similar weight synthetics. Stitch Type 503.

Style 39500 J, a plain feed machine for trimming and serging light, medium, and heavy weight trousers and similar garments with two-thread stitch, Type 503.

Style 39500 K, a plain feed machine for serging the cut edges of light, medium, and heavy weight trousers and similar garments.

Union Special Machine Co., 400 North Franklin St., Chicago, Ill.

For additional data, request item A-124, using Handy Return Card on page 177.

Permanent Treatment Truly Makes Fabrics Flameproof

Work clothing impregnated with "Aflamman" according to a completely new process is really impervious to heat.

At the recent Frankfort (Germany) Fair during a demonstration of oxy-acetylene cutting and welding, the red-hot pieces of metal were thrown off the impregnated clothing without any visible sign of damage or burning.

Another experiment carried out was to pour gasoline over a suit worn by one of the demonstrators and to set this on fire. No damage or hurt was suffered by suit or demonstrator.

The treated fabric looks and feels just like similar untreated fabric and is equally as penetrable by air. Also, the impregnation is weatherproof and impervious to washing and boiling—in other words, it is permanent.

Chemische Fabrik Dr. Quehl & Co., Speyer/Rhein, Germany.

For additional data, request item A-602, using Handy Return Card on page 177.

Designed by the TEXTILE Industry... Built by Colson

Model 3-408-16 Rigid fork caster with thread guards
Model 3-427-16 Swivel fork caster with thread guards
Model 4-507-65 Rubber caster—swivel fork

By working closely with people in the Textile Industry, The COLSON Corporation has developed a series of wheels, casters and trucks which will fit your *exact* needs. COLSON wheels and casters roll easily over all types of floors. They swivel freely and are rust resistant. Many models have thread guards. Write us *now* or consult the yellow pages of your 'phone book for the name of the COLSON office near you.

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ELYRIA, OHIO
CASTERS • LIFT-JACK SYSTEMS • INDUSTRIAL TRUCKS

NEW Equipment AND MATERIALS

Process Gives Fabrics Lustrous Metallic Finish

A simple, low cost production process which gives a lustrous metallic finish to textiles and other materials for both decorative and functional purposes is now available. It can be adapted to certain textile coating operations where metallic surfaces are desired; also, it is applicable to acetate or similar backing material for metallic yarns.

Called vacuum metallizing, the process is simple in principle. Material to be metallized is placed in a vacuum chamber together with a small amount of "plating metal," usually aluminum. When an appropriate vacuum has been reached in the chamber, the plating metal is heated to its vaporization temperature by the passage of an electric current through a resistance heating element. The metal vaporizes and radiates through the chamber, deposits by condensation on the material to be metallized, and produces a brilliant metallic finish. The pieces to be metallized need not have electrical polarity.

Adherence of vacuum-metallized coating is excellent, being fully flexible on cloth and other materials which are subject to frequent flexing. The coatings are heat-reflective and can be used on cloth for arctic wear to reduce loss of body heat without adding to bulk or weight of the garment, and still permit the cloth to "breathe."

The continuous roll coating method is usually utilized for processing textiles.

F. J. Stokes Machine Co., Philadelphia 20, Pa.

For additional data, request item A-105, using Handy Return Card on page 177.

Stiffness Tester

Testing range of a new stiffness tester for a variety of materials designated No. 660 is 10-500 cmg. Load scale is graduated in 100 divisions. Angle scale is graduated to 70 degrees in 5-degree increments. Specimen size, 15 mm wide by 50 mm long.

Charles Frank Inc., Weinheim-Birkenau, Germany.

For additional data, request item A-603, using Handy Return Card on page 177.

Tough Vinyl Film for Textile Packaging

A new 1-mil extruded vinyl film for textile packaging, called Vitafilm, is completely transparent, resistant to sunlight, reasonable in cost, and eliminates such packaging problems as splitting, brittleness, and shattering in cold and extremely dry atmospheric conditions.

Vitafilm textile wrap is produced by modern extrusion methods, giving a tough, economical, thin-gauge film which has excellent printability and can be handled easily on most wrapping machines with only minor conversion. It can be printed by both flexographic and rotogravure processes, and vinyl inks now are available from leading ink manufacturers.

Vitafilm can be easily heat sealed

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170 Summer St., Boston 10, Mass.

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Eufaula, Alabama

to make strong film-to-film welds that will not come apart. These seals are not affected by either high or low moisture conditions. Another advantage of the film is that heat seals can be made on automatic overwrap equipment at high speeds.

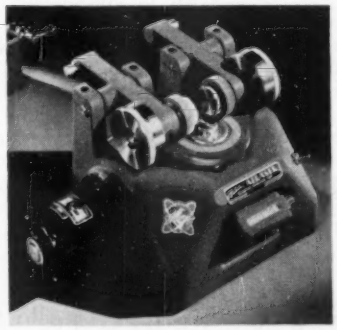
Goodyear Tire & Rubber Co., Akron 16, Ohio.

For additional data, request item A-123, using Handy Return Card on page 177.

Portable Taber Abraser Costs Less

A new portable model abrasion resistance tester (Model 140PT) performs practically all the feats of the standard laboratory model of the Taber Abraser, yet sells for less.

Actual wear conditions you select can be simulated for upholstery and all types of clothing fabrics and



other materials on this unique and highly accurate abrasion testing device. Results are easily read and minimum technical experience is necessary to conduct scientifically accurate tests.

Taber Instrument Corp., Section 24, North Tonawanda, N. Y.

For additional data, request item A-116, using Handy Return Card on page 177.

Glass-Surfaced Storage Structure for Starch, Dry Chemicals

The Harvestore, a glass-surfaced steel storage structure said to be the modern solution to difficult storage problems, ends maintenance upkeep, rust and corrosion problems, and is fire, weather, wind, and rodent proof.

A layer of glass is fused to both sides of steel plate, and the Harvestore is constructed of many curved plate sections all bolted and sealed together. All work in erection takes

The Harvestore for starch, etc., by Sprout, Waldron & Co.

place at ground level. Special tools, jacks, and a superintendent of erection are furnished.

Designed for use with the Harvestore is the A. O. Smith sweep-arm mechanical unloader with which the materials are unloaded from the flat bottom (no hoppers needed) structure. The unloader literally eats its way around the bottom and allows the easy unloading of material that has a tendency to pack and bridge.

When desired, the Harvestore can be furnished with a breather system of twin vinyl plastic bags in the top and vented to the outside air to prevent intermingling of outer air with the structure's contents. Units are now in service storing air-sensitive materials in an inert gas atmosphere.

Sprout, Waldron & Company, Inc., Logan Street, Muncy, Pa.

For additional data, request item A-607, using Handy Return Card on page 177.

Remove Those Stains from Grey Goods

A cloth spotter now on the market, designed to remove stains due to oil, grease, rust, or dirt from cotton, wool, and synthetic fibers, can be applied to grey cloth with swab, paint brush, or squirt can. It acts on stains in such a manner that they are removed during the finishing of the cloth.

Two types are available: (1) The kier type for use on cloth that will go into a kier boil or other basic or

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No. 2 HEADLESS PACKAGE UP-TWISTER
No. 3 WITH PERMANENT MANDRELS
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one of the "SHORT-CUT METHOD" pair
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COMBO DOUBLE DECK TWISTER
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SCRANTON 8, PENNA.

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields regardless of when you buy spools and bobbins.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

NEW Equipment AND MATERIALS

neutral solutions during the first steps of finishing; (2) The acid spotter for use on cloth that will go into an acid bleach, or sour, as the first step in finishing.

Both types are non-flammable and may be left on the cloth for any desired length of time, or the cloth may be finished in a few hours after spotting. Both contain anti-mildew agents.

Allied Producers & Supply Co., P. O. Box 367, Athens, Ga.

For additional data, request item A-604, using Handy Return Card on page 177.

New Daylight Lamp

The new Macbeth "Industrial" Daylight Lamp, for basic industrial color matching, embodies a completely new switching system, a new control panel, and one-piece enclosed-booth construction.

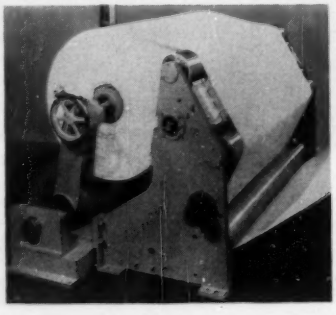
Overall dimensions are: height, 50¼"; width, 33⅝"; depth, 19⅛". The lamp comes equipped with filters, diffusing glass, volt meter, blower and motor and operating control.

Macbeth Corporation, P. O. Box 950, Newburgh, N. Y.

For additional data, request item A-107, using Handy Return Card on page 177.

One Man Operates This Shaftless Surface Unwinder

The Model 690 shaftless surface unwinder is designed for use where coated and processed cloth are handled. With this machine, coated cloth can be metered into a secondary operation under very close tension control, at low or high speeds, with the added advantage of rapid mill roll handling.



Advantages to be derived from its use are: one man operation; accurate constant tension; fast acceleration and deceleration; mill roll effortlessly swung into position hydraulically; edge adjustment by hydraulic cylinder with two position control (automatic web guide available); reduces chuck expense.

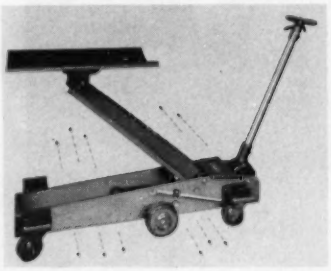
John Dusenbery Co., Inc. 271 Grove Ave., Verona, N. J.

For additional data, request item A-106, using Handy Return Card on page 177.

Beam and Cloth Truck Eliminates Lifting

A new and improved hydraulic lift truck for handling loom beams, warp beams, rolls of cloth, etc., is sturdily constructed of steel, compact and easily handled where there are narrow aisles and posts.

The cradle supporting the load swivels on its base, permitting the load to be lowered into position gradually by hydraulic action. The truck can be maneuvered at any desired angle, eliminating practically all lifting on the part of the operator, thus preventing accidents caused from overlifting.



The operator releases the center shaft which automatically raises the center wheels. The entire load then rests on the four swivel wheels. The truck can then be easily maneuvered laterally or at right angles with the greatest of ease. It is no longer necessary to maneuver the truck in order to get it into proper position to discharge the load. Finger tip control opens or closes valve in the hydraulic unit, for quick, safe and easy lowering or positioning of the load.

The eccentric center shaft, featured on this new truck, is controlled by a special wrench that is furnished and permits the operator to easily raise or lower the center wheels. When

load is moving, the weight is carried on the center wheels.

Standard Mill Supply Co., P. O. Box 1534, Providence 1, R. I.

For additional data, request item A-118, using Handy Return Card on page 177.

"Vestan" Fiber for Industrial Fabrics

Properties of a new man-made fiber called "Vestan" make it especially useful for the manufacture of industrial fabrics. It does not absorb dirt, is color- and light-proof, air-pervious, and rubbing-resistant.

Auto seat covers, awnings, blinds, protective suits, mosquito netting, and filters are some of the end uses for fabrics made of this new fiber.

Shoe soles made of Vestan manufactured according to a special process offer, by means of an air cushion under the sole of the shoe, warmth in winter and coolness in summer. Pot scourers of Vestan protect the hands of the user as well as the pots from disfiguring scratches.

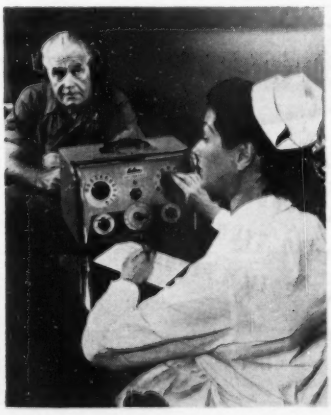
Chemische Werke Huels AG, Germany.

For additional data, request item A-605, using Handy Return Card on page 177.

Audiometer for Industrial Hearing Tests

Development of an audiometer designed to provide reliable and simplified hearing tests by industrial firms has been announced.

The instrument can test individuals or groups up to 40 persons. It has 75 per cent fewer component parts than most similar instruments, assuring more reliable performance, easier maintenance and operation. It uses only one tube and one voltage regulator. It has a more compact circuit enabling a more stable calibration.



The Beltone audiometer weighs less than 11 pounds and can be easily carried from plant to plant or to different departments.

For group testing, it enables reading the hearing loss directly on the dial. It eliminates distracting clicking sounds when the hearing loss dial is turned.

The instrument has one bone conduction and two air conduction receivers for individual testing.

Belltone Hearing Aid Co., 2900 W. 36th St., Chicago, Ill.

For additional data, request item A-606, using Handy Return Card on page 177.

Loom Picking Motion Machined for "Perfect" Paralleling

Now on the market is a parallel picking motion made of malleable iron, hardened to overcome breakage and wear, and machined with a flat milled surface for correct travel of the parallel shoe.

Constructed with ears to insure correct throw of the shuttle (in line with reed) for the life of the parallel, the unit is assembled with replaceable steel hardened stud and roll, instead of conventional parallel plug or wedge.

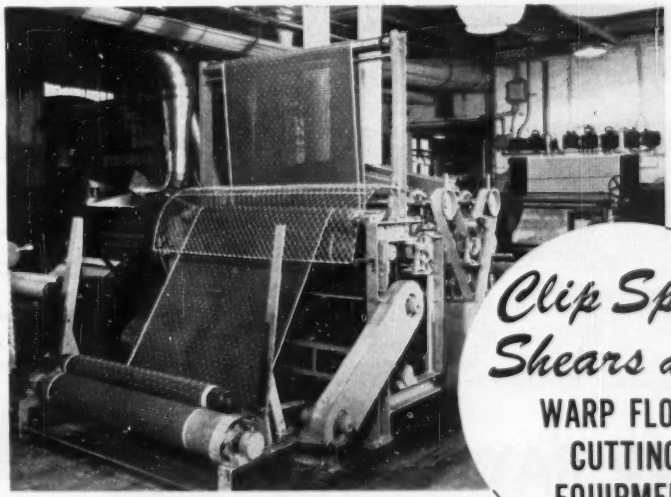
A new locking stud (instead of set screws) permits a correct and permanent alignment of complete parallel motion, when locked into position on rocker shaft.

H. F. Livermore Corp., Allston Station, Boston 34, Mass.

For additional data, request item A-404, using Handy Return Card on page 177.

New Acetate Ribbon-Straw Yarn

A new acetate ribbon-straw yarn is available in over 40 different spun-dyed colors as well as white (bright or matt). The scope of its application for use in apparel and furnishing fabrics is growing and it is being increasingly used for small wares and millinery. It can be given a flame-proof finish and is highly suitable for



Clip Spot Shears and WARP FLOAT CUTTING EQUIPMENT

If you are manufacturing marquisettes or other fabrics with warp float threads that have to be sheared off, write us for complete details regarding our Clip Spot Shears.

HERMAS MACHINE CO.

HAWTHORNE, N. J.

the manufacture of decorative and novelty articles of all kinds.

One advantage of the new acetate ribbon-straw is that it has a fibrous structure similar to that of natural straw, which enables it to stand up to weaving and other manufacturing treatments.

Courtaulds Inc., 600 Fifth Avenue, New York 20, N. Y.

For additional data, request item A-121, using Handy Return Card on page 177.

Picker Modification Controls Flow of Stock from Feeder to Finisher

Existing one-process pickers can now be modified to insure complete control of the flow of stock through the machine—that is, when the evener motion on the finisher section calls for more or less cotton, the flow of stock in the breaker and intermediate sections changes accordingly.

Results to be achieved by this modification, which is called "Quinn's Equalizer," are: less than half as many ends down in spinning; no laps lost; 90-100% of yards within tolerance of plus or minus 2/5 oz in most mills.

Modification consists of installation of an "equalizer" which drives the intermediate section feed rolls, breaker screen section, breaker feed rolls, and feeder hopper.

J. A. Quinn & Sons, P. O. Box 184, Greenville, S. C.

For additional data, request item A-108, using Handy Return Card on page 177.

Instrument for Study of Plastic and Elastic Properties of Fibers

Single fiber test apparatus No. 678 (Type AEG-Frank) is used for determining the tensile strength and stretch of single fibers of wool, cotton, silk, rayon, nylon, etc. It is constructed for maximum loads of 20 and 200 grams.

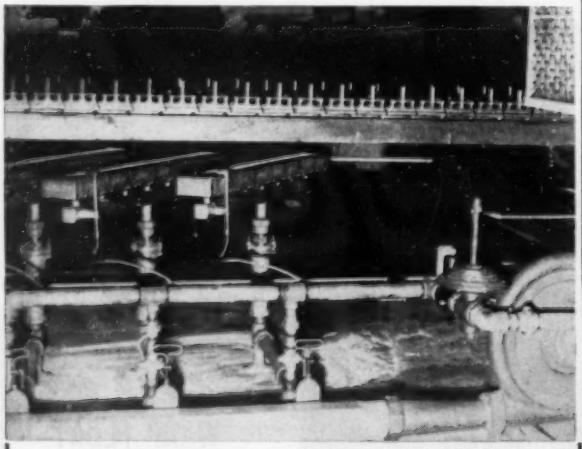
The progress of a tensile test is automatically recorded in a rectangular system of coordinates—that is, the force is shown vertically and the stretch horizontally. A stretch-resolution diagram, which is also provided, gives a clear picture of the elastic and permanent deformation of the fiber as well as the increase in length at constant load. The single numerical values can be immediately observed separately.

This instrument is particularly suitable for series testing, as the counter automatically adds the individual figures for load and stretch; at the end of the series, the mean value can be easily determined.

Step diagrams can be easily made with this apparatus; that is, it is possible to maintain the load constant for a definite time at a preselected load. During the recording of a stage, a second pen can be switched on for the recording of "stretch resolution."

The rate of load application can be reproducibly set by means of a switch.

Operation of the apparatus is extremely simple because of the careful arrangement of the operating



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Amazing Progress with Winders, too!

Lazenby winders give you efficient service, maximum yardage every time. They're precision-made to fit your specific needs. Filling winders for jute, sisal, coir or asbestos. Heavy duty or lightweight. Whatever your requirements may be, we can fit your needs. Just send us a small supply of your yarn and we'll wind and return with Test Wind Report and Catalog.

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switch. Special relays insure that on reaching the maximum load, and after return to zero, an automatic cut-out takes place.

Charles Frank Inc., Weinheim-Birkenau, Germany.

For additional data, request item A-608, using Handy Return Card on page 177.

Fiberglas Color Tubs Clean Easily, Stand Rough Handling

Fiberglas color tubs in a range of stock sizes for the textile industry are lighter in weight, less expensive, can be readily washed out, are non-corrosive, non-toxic, and electrically non-conductive.

Smooth-surfaced inside and out for easy cleaning, they withstand temperatures well above boiling point. Colors are permanently impregnated in the material.

Although these tubs are extremely lightweight, they have high resistance to impact and withstand extensive wear and tear. If damage occurs, they can be quickly repaired on the spot, at room temperature, by unskilled labor.

Beetle Products Division of Beetle Boat Co., Inc., Grinnell Street, New Bedford, Mass.

For additional data, request item A-117, using Handy Return Card on page 177.

Non-Yellowing Softeners

A series of four cationic softeners, Dextrol Research Softener #20, #21, #22, and RDA, resist yellowing, both during high-temperature treatment or on long storage of the treated goods.

The four finishes differ only in pH and the hand they produce on both synthetic and natural fibers. The agents exhibit high anti-static characteristics and resist dry cleaning and washing to a moderate degree. They are compatible with most resin mixes as well as with starch, dextrins, gums, and similar substances.

These products can be applied in either the final rinse after dyeing or by padding. One-half to three per cent on the weight of the goods in a bath or a similar amount on the weight of the pad liquor produces excellent hand in cotton, rayon, acetate, wool, nylon, Dacron, Orlon, and other synthetic fibers.

Dexter Chemical Corp., 819 Edgewater Rd., New York 59, N. Y.

For additional data, request item A-126, using Handy Return Card on page 177.

Electric Eye Guards Nip of this Two-Roll Padder

Now on the market is a two-roll sizing mangle or padder, the machine frames of which are of heavy welded construction. A pair of rubber rolls or rubber and stainless steel rolls is mounted in self-aligning roller bearings.

Pressure is applied by means of air cylinders according to the requirement of fabric being processed. The pressure applied on each end of the top roll is registered on gauges so that the actual pressure applied may be known at all times and a uniform or unbalanced pressure maintained.

The machine is fitted with a stainless steel pan having three immersion rolls, and the pan is adjustable in height so that the material being run may be immersed and run through the nip or fed straight through the nip with the bottom squeeze roll revolving in the liquor, thus feeding it up to the material being run.

To eliminate slippage the bottom and top squeeze rolls are geared together by roller chain. The drive is by a motor through a variable speed unit.

The nip is guarded by an electric eye which, when the beam is interrupted, stops the machine and raises the top roll. The machine may be used for padding, sizing, resin treatment or extracting, etc. It is made in 5-, 10- or 15-ton capacities.

Birch Brothers, Inc., 32 Kent St., Somerville 43, Mass.

For additional data, request item A-113, using Handy Return Card on page 177.

Equipment Briefs

A new **cylinder mounting** consisting of sturdy, thick, square mounting lugs that mount flush with Miller's standard square heads and caps to provide a space saving mounting of great strength and rigidity is now being offered. Designated Model 77, it is for side or foot mounting.

Miller Fluid Power Co., 2040 N. Hawthorne Ave., Melrose Park, Ill. (A-401).

The Askania **Hand Vibrograph** is a compact and light instrument suitable for measuring mechanical vibrations on textile machines. It is built for a frequency range from 0 to 250 cps and for accelerations up to 50 gs. Driven by its own clock work. Time markers operated by built-in 6-volt battery. Uses no ink. Records by

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MILTON aluminum alloy Tricot and Section Beams feature CONTINUOUS WELDED CONSTRUCTION

Drop-forged, heat-treated aluminum alloy heads and extra heavy barrels withstand pressures of nylon and rubber warps.

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MILTON MACHINE WORKS, INC.
MILTON • PENNA.

NEW Equipment AND MATERIALS

stylus on transparent waxed paper tape. Amplitude range from 0.00001" up to ⅜".

Epic Inc., 154 Nassau St., New York 38, N. Y. (A-403).

An improved paste type of **Ahcovat Soluble Green IB** overcomes the textile screen and roller printing plant problem of poor print paste stability and relatively short storage life. It shows an excellent rate of fixation, and working and fastness properties are exemplary.

Arnold, Hoffman & Co., Inc., Providence, R. I. (A-501).

The size 5U **rotary electric impact tool** for nut running, with 25% more power, has a ½" drive and weighs only 6¼ lb. Applies nuts and bolts more easily, faster, and tighter. Can also be used for drilling, screw driving, reaming, tapping, wire brushing, hole sawing, etc. Rubber bumper prevents entrance of dirt around driver and protects housing when tool is used in tight spots.

Ingersoll-Rand, 11 Broadway, New York, N. Y. (A-502).

All-molded **PVC (polyvinyl chloride) valves and fittings,** designated "Luncor," have exceptional resistance to corrosive chemical action, as well as strength. Rigid, they are suitable for pressures up to 125 lb and temperatures up to 150 F. Valve is of Y-type globe design.

The Lunkenheimer Co., Cincinnati 14, Ohio (A-503).

Make your own safety guards for gears, belts, flywheels, and all moving parts of machines quickly and at low cost by the use of standardized guard parts. Only tools required are a screw driver, hammer, hand snips, and a hack saw so that guards can be designed, assembled, and installed right at point of use.

F. P. Hutchinson, Harrington & King Perforating Co., 5655 Fillmore St., Chicago 44, Ill. (A-202).

The new 3000 series of **pigment printing colors** offers brilliant shades and superior fastness properties without restrictions as to types of textiles. It effects a considerable saving to the user and is adaptable for use in the Aulabrite Hand Rub Washfast System.

Aula Chemicals, Box 494, Elizabeth, N. J. (A-203).

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Lincoln Engineering Co., Industrial Div., 5702 Natural Bridge Ave., St. Louis 20, Mo. (A-204).

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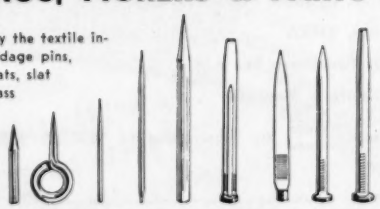

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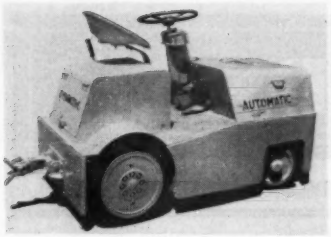

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Automatic Transportation Co., 149 W. 87th St., Chicago 20, Ill. (A-201).

The Finnell Model 4BH **Carryall for transporting cleaning supplies and tools** saves time and steps, operates quietly on rubber tires, stores in any small closet, and is easy to handle (weighs only 28 lb).

Finnell System, Inc., 1300 East St., Elkhart, Ind. (A-205).

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Neptune Meter Co., 19 West 50th St., New York 20, N. Y. (A-206).

A new instrument which accurately measures process temperatures and pneumatically transmits the information to a central recording or controlling station is the Model 12A **temperature transmitter.** It is a non-indicating device of the "force balance" type with a calibrated accuracy of ½% of the temperature span and compensated for ambient temperature and barometric pressure variations.

The Foxboro Co., Foxboro, Mass. (A-207).

For overhead conveyors incorporating 3, 4, or 6-inch I-beams is a new line of **ball bearing trolleys** known as Series 500. Rugged and simple in design, they are engineered to assure rolling contact with the track at all positions. Two types available: bolted wheel and bracket assembly for ease of assembly and disassembly, and riveted for permanent assembly of wheel and bracket.

Link-Belt Co., Dept. PR, 307 N. Michigan Ave., Chicago 1, Ill. (A-208).

Filled corrugated or fiber board cartons can be stapled from the outside, saving materials, time, and labor, with the Schafroth **pneumatic container stapling machine,** Model PA. Actuated anvil construction, only five moving units, no complicated mechanical linkage, low initial cost, minimum maintenance, precision performance, real economy.

Container Stapling Corp., 308 North Park Ave., Herrin, Ill. (A-209).

New **large-capacity constant-level oilers** automatically maintain a constant level of oil in large ring or ball bearing chambers, pump and gear housings, comb boxes, etc. 10 oz, 1 pint, 1 qt, and 2½ qt reservoirs are available in Lucite plastic or Pyrex glass.

Trico Fuse Mfg. Co., 2948 No. 5th St., Milwaukee 12, Wis. (A-210).

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Beetle Products Div. of Beetle Boat Co., Inc., Grinnell St., New Bedford, Mass. (A-211).

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Wilkerson Corp., 3381 South Platte River Dr., Englewood, Colo. (A-212).

Two new **non-dusting sulfur dyes** —National Sulfur Brown CGCF and National Sulfur Direct Blue N— when applied on cotton and rayon produce moderately bright shades of reddish tan and moderately bright blue and navy shades respectively.

National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y. (A-213).

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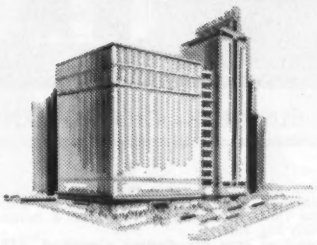

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The Permutit Co., 330 West 42nd St., New York 36, N. Y. (A-214).

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Geigy Dyestuffs, 89 Barclay St., New York 8, N. Y. (A-215).

A newly designed **air-operated portable stapler,** Model AB-1, features a new two-cycle air motor and weighs only 8 lb 12 oz. Eliminates need for return cycle air valve and prevents machine gun effect of continuous cycling. Adjustable penetration control of both anvil and staple prevents any possible damage to fragile contents of cartons being closed.

International Staple and Machine Co., 809 East Herrin St., Herrin, Ill. (A-216).

New Books

The *Handbook of Textile Fibers*, published by Harris Research Laboratories, Inc., 1246 Taylor St., N. W., Washington 11, D. C., is a consolidation of technical data concerning the raw materials and products of the textile and allied industries. Edited by Milton Harris, the book contains such general information as a glossary with 1800 entries; a listing of names, sources, and uses of natural and man-made fibers; names, compositions, and manufacturers of man-made fibers; and economic and production data on fibers and fabrics. For the laboratory worker, there are complete fiber identification schemes, yarn numbering and count systems, and chemical and engineering tables, etc. For the technologist and scientist there are included in addition, chapters on chemical constitution and structure, microscopy and X-ray diffraction characteristics, the latter two illustrated with 140 micrographs and X-ray diagrams. Nearly 300 tables and 100 graphs are concerned with physical and chemical properties of fibers. An extensive index (2700 word entries) makes it easy to find desired information. Price, $12.50.

In the 1954 edition of *ASTM Standards on Textile Materials* now available from the American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa., 25 of the test methods included in the earlier edition have been revised and 7 of the standards are new. New tentative methods of test are included for: determination of build-up and spread of glass yarn as wrap (serving) or braid over electrical conductors; elastic fabrics; wool content of raw wool (commercial scale); tuft bind of pile floor coverings; yarn distortion in woven fabrics; length of cotton fibers by Fibrograph; Micronaire fineness of cotton fibers. Price, $5.50.

In the second edition of *The Physical Chemistry of Dyeing*, by Thomas Vickerstaff, which is largely revised and brought up to date, the two chapters on dyeing kinetics have been largely rewritten in the light of more recent work, while two additional chapters covering the dyeing of vat dyes and the dyeing of hydrophobic fibers have been added. Published for Imperial Chemical Industries Ltd. by Interscience Publishers Inc., 250 Fifth Ave., New York 1, N. Y. Price, $7.50.

Deterioration of Materials: Causes and Preventive Techniques describes and analyzes the causes of deterioration in materials, including textiles, and presents proven techniques for preventing or retarding such deterioration. Brings under one cover a full discussion of deterioration prevention. Profusely illustrated and thoroughly indexed. Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. Price, $12.00.

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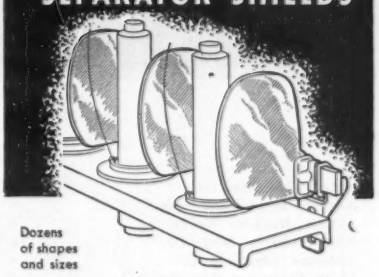

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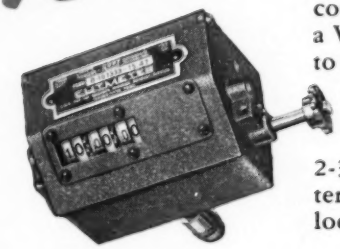
Marshall Field & Co., Inc.
Mt. Vernon-Woodberry Mills, Inc.
Muscogee Manufacturing Co.
Peerless Woolen Mills
Pepperell Manufacturing Co.
Standard-Coosa-Thatcher Co.
Swift Manufacturing Co.
Swift Spinning Mills
The Springs Cotton Mills
Thomaston Mills
United Merchants & Manufacturers Co., Inc.
West Point Manufacturing Company

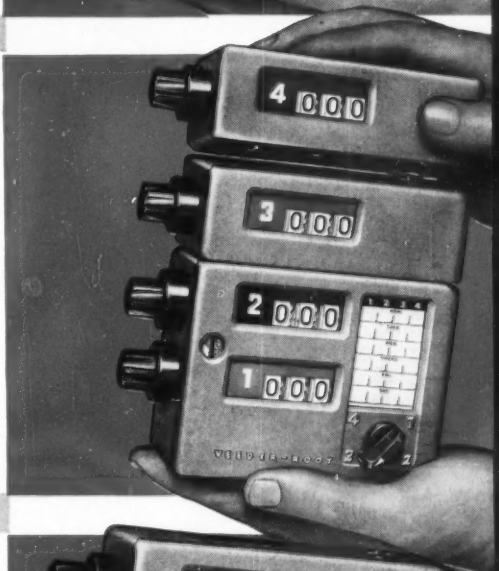
In Spinning...

New Veeder-Root 2-3-4 Convertible Hank Counters are easier to read, reset and maintain. And they are built to give you years of accurate facts-in-figures that help toward closer production *Count*rol.

Weaving...



Here's the combination to count on . . . *on every loom* . . . a Veeder-Root Cut Meter (left) to light a light or stop the loom at a pre-set woven yardage, *assuring uniform cuts of cloth* . . . and a new Veeder-Root 2-3-4 Convertible Pick Counter to keep accurate count of loom production on each shift.



Knitting...

For any type of knitting machine, Veeder-Root makes the counters you need to control your production. These new Revolution Counters, with the same advantages as the new 2-3-4 Convertible Hank and Pick Counters, can also be geared to record racks, or racks and tenths. In Fact, In Any Department of Any Type of Textile Mill . . .

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